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FATTY OVERGROWTH OF THE HEART.[1]

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It appears almost needless to state that fatty heart means two different forms of pathological changes—the one an infiltration, the other a degeneration. The object of this paper is to discuss the former, fatty overgrowth of the heart.

In looking through the literature upon this subject, it is remarkable how many names have been given to this affection; thus, Gowers (Reynolds's *System of Medicine*, vol. iv. p. 760) calls the affection fatty overgrowth, and then gives the synonyms as follows: fatty infiltration (Rokitansky); fatty overgrowth, fatty hypertrophy (Quain); adipose cardiaque, surcharge graisseuse, obesite du cœur (French writers), to which can be added lipomatosis, polysarcia cordis, cor adiposum of the Germans, not to mention the German names themselves, which are used by the latter. The term "fatty heart" is certainly not sufficiently distinctive, as others (Pepper) have already pointed out, and, as we are dealing with an affection clinical principally in its importance, it would be well to unite upon one term, so that the confusion which now exists might be done away with. The name chosen is one of two given by Richard Quain (*Medico-Chirurg. Trans.*, 1850, p. 121 et seq.), the author who has written if not the best, certainly the most memorable article upon the subject; it seems to express as much as need be expressed. If we chose to retain short terms, fatty heart might be retained for the degenerative process, and fat heart for the infiltrative.

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So far as the historical development is concerned, it certainly is a fact that Hippocrates (the all-knowing), Galen among the very old, and Morgagni, Senac, Haller, Lancisi, and others among those preceding the present modern school, have referred to the subject in one way or another. Laennec and Corvisart spoke of both fatty degeneration and infiltration, but made nothing of the condition from a clinical standpoint. For the first appreciation of this condition, not only at the post-mortem table but also at the bedside, we must turn to the Dublin school, represented by Cheyne (1818), Stokes a little further on, and Kennedy, who is very diffuse (1849–50). By far the best and most acute essay written about this time (1836) is that of Latham (*Lectures on Subjects connected with Clinical Medicine*, published by the New Sydenham Society, 1876, pp. 326–328, vol. i.), which we will have occasion to study a little more carefully. He makes a distinct division of fatty heart into obesity and degeneration, describes correctly the changes undergone by the muscular tissue, gives an excellent though very brief account of the symptoms, and places an estimate upon the possibility of a diagnosis which, certainly, seems very sound. Next, chronologically, comes the essay of Richard Quain, accompanied by a table of cases which forms the basis of a table published by Hayden (*Diseases of the Heart and Aorta*, Philadelphia, 1875), and is, in every respect, the most important contribution to the subject in the English language.

During all this time the Germans had been quiet, from a clinical standpoint, and it is not until 1878 that we find Leyden beginning his work (*Berl. klin. Wochenschrift*), which he continued and completed in 1882 (*Ztschrft. f. klin. Med.*). Oertel (*Hdbch. d. allgemeinen Therapie*, vol. iv., 1884), who has made special studies and reduced the treatment to a method, claims that he began his work nine years before publication and, although priority as far as German literature goes must be denied him, he, with Leyden, has done more to call the attention of the profession to fatty overgrowth of the heart than any one else.

The large handbooks which have been published in our days (Virchow, Ziemssen, Pepper) all devote more or less space to the subject and it is a special gratification to see that Prof. Osler, in the discussion of the subject in Pepper's *Cyclopædia*, has held to the strict line of demarcation between fat and fatty heart. Most modern text-books refer to the subject, but, as a rule, they discuss both conditions together. There have been but two complete tables published (Quain and Hayden). It was found very difficult to decide upon proper cases, and, for the sake of accuracy, only such cases have been included in which the diagnosis was beyond doubt. A great many of the older cases, therefore, were rejected on account of incomplete reports, and other cases, from which incomplete deductions only can be drawn, were also omitted.

ETIOLOGY.—Whatever causes obesity may cause fatty overgrowth of the heart. The two conditions are absolutely connected together. When authors speak of the occurrence of a fat heart in phthisis or cancer, it may be a process of fatty degeneration, or of true fatty overgrowth; in the latter case due to obesity, however. Quain states that it is more common in males than females, but quotes Bizot, who found it more common in females. The latter, according to Quain, found 9 fat hearts in 14 fat females, and 14 fat hearts in 29 thin females; but, in the language of Quain, Bizot's investigations apply to "a mere greater or less quantity of fat." In the table appended, 88 cases were males and 34 females. As far as age is concerned, it may occur at almost any time of life. Thus Kisch gives 36¼ per cent. from thirty-five to fifty years, 39¾ per cent. from sixteen years (the youngest) to middle age, 24 per cent. in persons from fifty to sixty years. As far as these statistics go, then, it would seem that 76 per cent. occur before fifty years, and only 24 per cent. after this time. In the collection of cases, 122 in all, in 5 of which no age is given, 59 per cent. were below sixty years of age, 41 per cent. above.

Occupation plays a very important *rôle* in the production of heart symptoms with obesity; a man who has been active up to thirty-five or forty, and then leads a life of idleness combined with fat-producing conditions, is apt to suffer with fat heart. This may explain the great preponderance of the affection in males; females, as a rule, continue with their vocations or do not have occasion to change their habits from intense activity to physical idleness as often as men. The abuse of alcohol or the taking of great quantities of fluid by a fat individual, certainly predisposes to fat heart under proper conditions; in two of my own cases, fat heart has developed in the bookkeepers of large breweries. These men consumed enormous quantities of beer daily (from thirty to sixty glasses); their only occupation consisted in keeping their accounts, and when the time for exercise in the evening came they were physically unable to take it. As a result, fat accumulated, and the heart became affected. It is remarkable that, although the men who are engaged in working in the breweries drink just as much beer, they are not affected by this form of heart trouble. This alone goes to show that it takes more than obesity to produce fat heart, for brewers, as a rule, are above average weight.

As will be shown further on, all fat people are in danger of having not only their hearts surrounded but also invaded by fat. But given two very obese persons, it is a problem why one should have heart symptoms and another not. The influence of sex, occupation, and alcohol has been referred to above; everything causing heart strain or irregular activity of the heart may predispose to the further development of fat heart. In this category of causes may be enumerated excessive use of

tobacco, coffee or tea, great and frequent excitement. Frequently patients with fat heart are in a condition bordering on neurasthenia, frequently their whole character becomes changed from good nature to irritability; but it seems impossible to determine whether we are dealing with cause and effect, or *vice versa*. It is not uncommon to find a man who has been obese since his twentieth or twenty-fifth year, and has carried his fat without symptoms of any sort, manifesting signs of fat heart after he has gone through prolonged trouble—the loss of a fortune in one of my cases, and the struggle to get another. The symptoms here will develop gradually and, combined with a neurasthenic condition, there will be present all the signs of fat heart.

PATHOLOGY.—Leyden has divided the disease into two classes: 1, fatty growth around the heart; 2, fatty infiltration of the heart. The latter class he subdivides into two; one without and the other with arterio-sclerosis. It has seemed unnecessary to me to make the subdivision, as we can consider arterio-sclerosis a complication, but hardly one of the prominent features of fat heart. It will be seen from the table that only 39 cases had atheromatous deposits, yet, as additional proof of the point raised, it will be remembered that this table is composed principally of cases which have been observed upon the post-mortem table as well as clinically. It has been impossible to find a very great number of cases, which have recovered, on record—these, manifestly, being the ones which ought to decide the question. We might, perhaps with more reason, make a subdivision of fat heart with bronchitis or dropsy, for both of these conditions, although complications, are found in nearly all well-marked cases at a certain stage of the disease.

From the standpoint of pathology, modern medicine has done very little to add to our knowledge concerning the relation fat bears to the heart. It seems, furthermore, that it is not the pathology that interests us, especially in our present state of knowledge, as the objective signs, certainly for one state of the diseased condition, are hardly characteristic for any particular change in the heart substance. Quain states that Rokitansky in his *Handbuch d. path. Anatomie*, ed. 1842, has described three forms of fatty heart: 1, fat in excess upon the surface, 2, fat among the muscles, in excess; and 3, fatty degeneration (I have failed to find this in the edition of 1856). Sir James Paget was the first to introduce these views to the English public in his series of lectures published in the *Med. Gazette* for 1847, and the divisions made by Rokitansky are, practically, those made by Leyden as quoted before.

Of the first form, fat in excess upon and around the heart, little need be said in this connection. We find it in obese subjects, and it consists simply of an increase of fat in the connective tissue of the mediastinum, and the various layers of the pericardium. Upon the external surface of the heart the fat is found in excess wherever there is connective

tissue, and this especially around the superficial bloodvessels to begin with. As a result, we have the fat increased in the sulci of the heart first, then over the ventricles; the right ventricle is affected more than the left on account of the greater number of superficial bloodvessels lying upon it. There is usually quite a large deposit of fat at the apex, and, frequently, a fringe extending along the right border of the right ventricle. A great many cases will be found in which the heart is so buried in fat that none of the muscular tissue can be seen. In these cases, however, it is doubtful whether we are dealing with a pure case of fat heart of the first degree, as the condition of the myocardium decides this question.

As far as can be seen from the incomplete record, no microscopical examinations having been made, it seems that some cases are recorded in which the myocardium remained perfectly healthy, although invested by fat. From a pathological standpoint we are dealing, as a rule, with a case of the second class, when the fat around the heart becomes developed to such an enormous quantity as to invade the myocardium. The line of demarcation between a normal and an abnormal deposit is one that cannot be drawn with mathematical accuracy. In all the cases investigated by modern methods, it seems to be abnormal when it interferes with the functions of the myocardium. Again, this is a point which cannot in all instances be determined with certainty by post-mortem investigation, thus giving additional force to Leyden's argument for the acceptance of the condition as a clinical and not a pathological entity. Yet the decision of pathological increase of fat cannot be difficult for the experienced pathologist in the majority of cases. The essential part of the change consists in the intrusion of fat upon the muscular substance of the heart: the results are atrophy of the muscular fibres and fatty degeneration.

The first change is the one seen most commonly; it is due to pressure by fat, and, as a rule, is associated with a "distortion" of the muscular fibres. It is remarkable how little fatty degeneration is found in these cases, a fact to which Quain already calls attention, and Leyden insists upon with great force. The latter author goes so far as to state that wherever fatty degeneration of muscle is found, it is due to general and not to local causes. It would be remarkable to admit that the anæmia which must follow the development of fat in such quantities around the bloodvessels could not produce fatty degeneration; but opposed to this is the fact that fatty degeneration was found to a very limited degree in the five cases examined in this direction by Leyden, one of which was also investigated by Grawitz. More extended observation is desirable, especially as to the relation of those parts degenerated and the quantity of fat around the bloodvessels supplying those parts. Upon macroscopic examination, the myocardium will be found normal in size

in some instances, but always less resistant and usually softened, easily torn, and of a pale brownish color. Cases have been described in which the fat has given its own color to the muscular substance. The fat makes its inroad from without, so that we see the muscles under the pericardium invaded most, and those under the endocardium least, the fat invasion extending through the whole substance in very severe cases. The papillary muscles would naturally be attacked, on account of their connection with the outer layers of muscular fibres, but this does not seem to be as frequent as was once supposed.

The mechanism of the changes that follow is a very simple matter. The substitution of fat for the hardest and most resistant muscle in the body leads to dilatation, best marked where there is most fat; sometimes hypertrophy follows, sometimes there is myocarditis. Rupture of the heart takes place where the process has lasted for a long time, and where it is well developed. In the cases collected, this took place in 25 out of 122: most frequently upon the left side of the heart (in 18), upon the right side in 3 cases, once in the ventricular, once in the auricular septum. In 2 cases locality is not mentioned. It is a remarkable fact that valvular lesions are quite uncommon, for in the whole number of cases collected only 16 had lesions of the valves, which were, for the most part, due to processes of a different nature. As the result of circulatory troubles, we see the usual changes which take place in a great many different forms of heart disease. The lungs are congested, their bloodvessels dilated, and their whole volume sometimes increased. In all probability this is due to the stasis which occurs in them, whether the circulation be disturbed from the right or the left side of the heart.

Symptoms.—The first class of cases presents few or no symptoms that could be called characteristic. The patient, like all fat people, is short of wind, cannot stoop often without losing his breath; whilst walking or running will produce dyspnœa. The same can be said for great or prolonged excitement. Physical examination may or may not reveal anything abnormal. If the patient be very fat, percussion will give only an approximate idea of the size of the heart, otherwise, the area of heart dulness is found increased on account of fat upon the pericardium. Palpation frequently reveals a diffuse heart impulse, but it is normal just as frequently, although it may be feeble. Auscultation simply shows normal heart sounds. The pulse in these cases is strong, neither rapid nor slow. If an analysis of these symptoms be made, we will find that we must base our diagnosis upon attacks of dyspnœa and enlargement of the heart dulness in a fat person. The first symptom can be explained without taking the heart into consideration as cause; the breathing space is smaller than normal, on account of accumulation of fat within the thorax and the abdomen, and this is especially the case when the patient bends over. Furthermore, if we look to the heart, fat

people have more blood, absolutely, than lean ones (Recklinghausen, Oertel); therefore, any slight exertion will give the heart in a fat subject more work than it can do with comfort, the size of the heart not being increased with general obesity. The second symptom, enlargement of heart dulness, may, in individual cases, be well enough developed, but it seems to me very risky to base a diagnosis upon simple enlargement of the heart dulness in a fat patient, not to say anything of the difficulties experienced in detecting this enlargement. At best, then, it seems justifiable only, to suspect fat growth around the heart.

In the second class of cases we have a clinical picture which is more distinctive. The patient comes to the physician and complains of symptoms that are easily referred to some affection of the heart. He has been fat for years, and has been bearing his fat perfectly well until a comparatively recent time, when he complains of one or another symptom, which leaves no doubt as to where the cause of trouble lies. The least exertion causes dyspnœa; he will be waked up at night, especially after a full meal, by an attack of dyspnœa, or he finds it difficult to get to sleep, after having retired, on account of violent and painful palpitation. Or he has more or less well-defined attacks of angina pectoris, at one time represented by violent pains in one or both arms, without dyspnœa, at another, attended by the most pronounced difficulty in breathing. Again, the complaint may be that the patient is suddenly attacked by asthma, of cardiac nature, or that he has cardiac asthma almost constantly. In some cases, short attacks of a semicomatose or apoplectic character are complained of. Rhexis of bloodvessels accompanied by true apoplectic seizures takes place, when atheromatous processes are associated with fat heart. It will be seen that there is nothing absolutely characteristic in these symptoms, except that they are the result of weak heart or of degenerate bloodvessels.

As far as the subjective signs are concerned, it is not necessary to point out here that fat in the myocardium will not produce symptoms differing from those of the heart weakened or dilated from other causes. Neither does it seem a fit place to add that a dilated or weak heart will be followed by the same symptoms, as far as circulatory disturbances go, whether the cause be myocarditis, aneurism of the heart, or fatty overgrowth. At best, we must base our diagnosis upon a combination of signs, as it is impossible to depend upon the subjective symptoms when the diagnosis can be made. The subjective symptoms vary enormously, as can be best illustrated by the two following cases:

Case I.—Y. Z., male, aged thirty-seven years; weight 227 pounds; size five feet eleven inches. Family history good. The man had been an actor from his twenty-second to his thirty-fourth year of life. Before that, studied at a German university. Within the last three years has been bookkeeper and partner in a large liquor store; states that he does

not drink much daily, but occasionally has to drink too much. Has had all the diseases of childhood; muscular rheumatism after Franco-Prussian War, in which he was an officer; had gonorrhœa, but never had syphilis. During the time of his activity as an actor he never weighed more than 165 pounds, until 1881, when he began to gain, so that in 1883 he weighed 230 pounds. He was able, by means of exercise, to reduce himself, but never lower than 200 pounds. Since he has changed his occupation he has gained steadily, and now complains of restless nights, and of sleeplessness during the day and night. Occasionally he has pain in both arms, especially in the left one, which sometimes becomes very acute, radiating from the region of the heart into the shoulder and from there to the hand; but not accompanied by dyspnœa. When he stoops or eats a full meal the blood rushes to his head and he feels very much oppressed over the chest. His eating has so much effect upon his breathing that, latterly, in order to satisfy his appetite, which, he claims, is not very good, he has been forced to eat more frequently than before, but much less at a time. Has palpitation of the heart when he lies down, and cannot walk or run as he formerly did without bringing on an attack of palpitation and violent dyspnœa. In these attacks he says that his chest feels as if it would burst, and could not on account of being surrounded by a hoop of iron. Examination reveals heart impulse diffuse and weak in the left mammary line; heart dulness extending to one inch beyond the right of the sternum, to the mammary line on the left and to the level of the second rib upon the sternum. Heart sounds clear but muffled. Pulse ranging from 90 to 100, weak and easily compressible, but perfectly regular.

This is a specimen of the beginning of trouble. The case following is one of a much severer type. (In narrating both these cases, much has been omitted which has not seemed essential.)

Case II.—X. Y., male, aged forty years, weight 190 pounds, size five feet eight inches. Father died of apoplexy, mother of diabetes mellitus. Consulted me May 29, 1887. States he has been stout since his twenty-fifth year. Had left him a large fortune by his father, which he lost on Wall Street under circumstances involving very much litigation, and leaving him a complete bankrupt. This occurred several years before he noticed anything of his present ailment, except that he had become very nervous. He ascribed this to worry and anxiety, and to his continued want of success in being able to provide for his family. Drinks moderately now, but has drank too much. Smokes excessively —fifteen to twenty cigars a day. Has had gonorrhœa, chills and fever, erysipelas (1875), and is a hay fever subject. In September of 1886 he first noticed the beginning of his present illness. This consisted of a spasmodic contraction about the chest, accompanied by dyspnœa when he walked fast. The attacks became more violent, the pain extending especially to the left arm, and coming on without the provocation of exercise. Thinking about anything interesting or exciting at all, will provoke an attack. At first these attacks lasted but a few minutes, but now they last much longer. On May 2, 1887, had an attack coming on at night, asthma, associated with pain in the head and chest, which left as suddenly as it came. The next night he was kept awake all night by a similar attack, which left him sore the next morning. He consulted

a physician, who prescribed a solution of nitroglycerine, which seemed partially to control these attacks. Upon examination, the apex beat was found outside of the mammary line, dulness upon percussion began here, but did not extend to the right of the sternum, nor higher than normal. Auscultation showed a systolic bruit at the apex, very soft, a change in the accent of the first and second sound, and an accentuation of the second pulmonary tone. The pulse was small, but not too fast. This patient was treated, sent to Marienbad eventually because he could not be completely controlled at home, and upon his return the following note was made: The heart reveals nothing abnormal except a slight indistinctness of the first sound at the apex. Accentuation of second pulmonary sound disappeared. Patient has lost over thirty pounds in weight, and feels perfectly well.

Upon examining the heart, we are enabled in individual cases to arrive at a positive conclusion; this is even admitted by Rosenbach (Ziemssen's *Real Encyclopædie*, vol. vi. p. 484), who, in general, denies the possibility of a positive diagnosis. As has been pointed out before, percussion in a very fat individual does not give satisfactory results; we can say, in general terms, that the area of dulness is increased as it was in the first form, sometimes more definitely to one or the other side. In reëxamining some of my cases, I have availed myself of auscultatory percussion, and find that, even in very fat people, the heart dulness presents a decidedly different outline from the ordinary when examined in this way. My experience in this direction, however, has been so very limited that I would not dare to say anything about the absolute value of this method.

By palpation, the heart impulse is found to be very diffuse, and, in some instances, it cannot be felt at all, it matters not in what position the patient be placed, whether lying down, standing up, or leaning forward. Auscultation reveals something abnormal in every case. At the apex the first sound is changed in one way or another, almost the first manifestation being that the trochæic rhythm is altered. The first sound becomes weaker and less accentuated, and, in some cases, has disappeared entirely (Hardy, *Bull. de l'Acad. de Médecine*, 1882, p. 236). It has also been stated that the first sound has been reduplicated, so that the valvular and the muscular sound could be distinguished, the one from the other. A low bruit is sometimes heard with the first sound, which has been attributed by authors to different causes. Curschmann (*Deutsches Archiv f. klin. med.*, 1874, p. 93) describes a case of fatty infiltration of the heart, in which the papillary muscles were infiltrated as well as the rest of the heart; in this case a bruit was heard toward the end of the illness, with the first sound at the apex, no accentuation of second sound at the pulmonary, so that Curschmann calls the bruit hæmic. On the other hand, Cratz (*Wiener med. Wochenschrift*, 1864) relates a case in which there was decided infiltration of the papillary muscle, yet no bruit was heard. In all the other cases which I have looked into, no

bruit was present when the papillary muscles were affected, although it would seem that, theoretically, a bruit could be produced by degeneration of the papillary muscle, which is also admitted by Schroetter (Ziemssen's *Handbuch*, vol. i. p. 236), yet, practically, this does not occur. The cause for this is probably to be found in the fact that a sufficient number of muscular fibres are left to prevent the mitral or tricuspid valves from becoming insufficient. The bruit is not of a valvular origin, because, as has been pointed out before, valvular lesions are very rare in fat heart; and secondly, the other physical lesions do not correspond with a valvular lesion. The bruit which is heard must, I take it, be due either to the irregular contraction of the muscular fibres of the heart, or it must be hæmic in its origin. It would lead too far to discuss the question, but it seems to me to be the same bruit which is heard in those cases of chorea in which we are able to establish neither the existence of a heart lesion nor anæmia

An accentuation of the second pulmonary sound is sometimes heard at the base of the heart, especially in those cases in which the left side of the heart is dilated and weakened; but this is by no means of sufficient frequency to lay stress upon. Yet its presence can be of importance from a diagnostic standpoint. In the second case I have reported, there were present all the physical evidences of a mitral regurgitation, yet if percussion could be relied upon, and this seemed to be the case, as the patient was not too fat, there was enlargement of the left side of the heart, and none in the right, which naturally precluded the diagnosis of mitral regurgitation. Thus, then, and it is unnecessary to adduce other illustrations, there may be an incongruity of physical evidences which alone leads to the proper diagnosis in a fat person The pulse differs from the weak and rapid to the weak and slow, irregular, or intermittent, or the latter combined with rapidity. It is almost characteristic of the condition to have a large, apparently healthy and robust individual present himself with the pulse of a child. If the sphygmograph be used, it will be found that the tracings vary enormously. Kisch divides the cases into four groups: 36¼ per cent. have a pulsus tardus which is sometimes anacrotic, in 32 per cent. the pulse is subdicrotic or dicrotic, in 24 per cent. there is increase of arterial tension (arterio-sclerosis), and in 7¾ per cent. there is arhythmia, from an intermittent to an irregular tracing. A slight amount of exercise brings out the true character of the pulse, sometimes changing the tracing so that it is hardly recognizable as coming from the same patient.

Examination of the other organs may or may not reveal anything abnormal; this depends entirely upon the heart. It has seemed to me, however, that an examination of the urine was necessary in every case, for two reasons: it gives us a knowledge of the degree of heart affection (albuminuria existing or not); and, secondly, we get an idea of the metab-

olism of the body (which we can get by no single method of examination, and which is invaluable as far as treatment is concerned) from a careful, quantitative as well as qualitative urinalysis. Examination of the urine is of the greatest importance.

DIAGNOSIS.—A great deal has been said and written on the subject of diagnosis of fat heart, from absolute negations of its possibility in any case, to positive enthusiasm of its recognition in every instance. From all that has been said, it will be seen that the fact that there is a change in the myocardium is the only diagnosis we are justified in arriving at. If we now take into consideration that we are dealing with a fat person, the chances are that the case is one of fatty overgrowth of the heart. But we are not justified in excluding degenerative changes in the myocardium—these are frequently found in the same individual. A decision may be arrived at in the individual case if we weigh all the symptoms carefully; and, again, it may be almost impossible to make a differential diagnosis between fatty overgrowth and a valvular lesion. Latham (*Lectures*, XXVI., p. 328, New Sydenham Society, 1876) has expressed our position very aptly: "we are able, during life, to conjecture a fat heart with such strength of probability that we almost know it."

PROGNOSIS depends very much upon the form that we are dealing with. Cases of the first class are to be looked after, because they will eventually develop into the more serious second form. It is a problem still to be solved, why some fat people escape fat heart, and why others who are by no means so fat will suffer. It is within the observation of every one that persons may be enormously heavy, and yet have no heart symptoms whatsoever. It is impossible to determine what percentage of fat people suffer from heart complication. Kisch, in the introduction of his book on "Die Fettleibigkeit," (1888), says that he has seen over 10,000 cases of obesity in an experience of twenty-five years at Marienbad. Further on (page 91) he speaks of having in latter years utilized sphygmographic tracings of 700 obese persons "in whom the diagnosis of fatty overgrowth of the heart could be made with probability bordering on certainty." The phrase "in den letzten Jahren," in late years, causes one to conclude that he has seen more than 700 cases of fatty heart, so that there is no certainty in utilizing his figures. This much can be stated with certainty, that any obese person is in danger of fatty overgrowth of the heart, and that the weight does not form a positive index as to the chances of its occurrence. For the individual, the amount of involvement of the heart must be the principal factor as to prognostication, although the age, general condition, and form of obesity must not be lost sight of.

TREATMENT.—The treatment of fat heart is the same as that of obesity. In the majority of instances we remove all that there is of the disease when we remove the fat; the muscles of the heart resume their natural functions, and the patient is relieved. There are a great many ways of

reducing a patient's weight (I presume it is a part of modern medical science to call *these* methods, and by various names). There is the Banting (Harvey), the Ebstein, the Oertel, the Schweninger method, and several others. The principles upon which they are based are identical, absolute reduction of food taken in twenty-four hours, and plenty of exercise. To this Oertel and Schweninger add reduction in quantity of fluids introduced. Ebstein prefers the fats to the starchy and saccharine foods, but allows mixed diet like all the others, with the exception of Banting (Harvey), who prescribes an almost exclusively albuminous diet. As there is no doubt that all of these methods have succeeded, so there can be no doubt that the principles upon which they are based are correct. It is necessary to add, only, that there is an indication for each one or none of these methods; in other words, that every case must be treated as an individual one, and that the so-called methods can give us nothing more than general outlines, which must be filled up.

The treatment by saline cathartics is a very valuable adjunct—these may be in the form of mineral waters or medicaments, to be used, however, in suitable cases. The two latest works which have been written (Oertel and Kisch) take opposite sides on the question of benefit from Marienbad, Carlsbad, etc. The true state of affairs will probably be found in the middle. Oertel, who lays most stress upon the collection of fluid in the system, and the disturbance of hydrostatic equilibrium, warns physicians at bathing resorts not to accept these patients; yet the action of saline cathartics is to withdraw fluids from the system. Kisch, who finds a fine difference between Marienbad and Carlsbad, to the enormous advantage of Marienbad, advises the use of sweat-baths, which withdraw water. It would be folly to send an anæmic obese patient to Marienbad, just as it would be extremely risky to put a patient with thin and dilated heart-walls through Oertel's plan.

A great many remedies have also been recommended, some with specific properties, some without them; some of them are very useful, such as arsenic, iron, but none will do the work without the proper diet. One thing seems to be agreed upon by all observers: that whatever treatment is used, must be continued for some time. This will be illustrated by the following case, of which I give the outlines.

CASE III.—*March 2, 1879.* A. R., aged fifty-five, male; weight 298 pounds; size five feet ten inches. Comes on account of a heavy cold which he says he has contracted. Has been coughing for several years. Has been a saloon-keeper for ten years; before that, unsuccessful merchant. Began to gain weight after changing occupation. Drinks not less than twenty, sometimes as high as forty glasses of beer in twenty-four hours (from one and a half to three gallons). Takes more or less wine and whiskey. Rarely goes out of his saloon, takes no exercise whatsoever. Finds it impossible to get to his sleeping apartment on the second floor without resting three or four times on account of difficulty

in breathing and palpitation. Cannot walk any distance without stopping to recover his breath. Becomes dizzy when he stoops, etc. Examination shows enlargement of right side of the heart, no heart impulse, first sound at apex very weak, accentuation of second pulmonary tones and evidences of a general bronchial catarrh. Pulse very weak, rapid, but regular. Urine contains traces of albumen.

Treatment consists in reduction of fluid taken into the system, exercise, and Carlsbad salts. It was not necessary to order diet, because the man ate very little. The patient gradually reduced the quantity of liquid he was taking to three small glasses of cognac a day, and as he did this his appetite began to improve, so that a diet list was made for him, quite generous, mixed, and limited as to quantity only. He began by walking a given distance without resting (one-half square), then was told to increase this, and to do this continually, so that after two weeks he was able, without fatigue, to walk twenty times as far as when he first started. In the course of this time he had lost fifteen pounds, and all his symptoms were improving. He was then told to climb slight elevations, of which there are a great many in Cincinnati, and after three months of treatment he climbed some quite high hills which surround the city. After six months of treatment he had reduced himself to 245 pounds (loss of 53 pounds), and was feeling perfectly well. He had to give up his saloon for financial reasons, started in another occupation, and did well. For two years (until 1881) he kept up with his treatment, occasionally gaining in weight a little, and then making extraordinary efforts to reduce himself, in which he always succeeded.

About this time his new venture began to fail him, he grew careless, began to drink again, and gradually regained almost all that he had lost (weighing 285 pounds). On July 17th he was attacked with an apoplectic seizure, coma set in, and in a few days he died. A post-mortem was not permitted.

Oertel's method, briefly stated, consists in the exercising of the heart, reducing the quantity of fluid in the system, and a diet. Exercise of the heart is accomplished by causing the patient to climb hills of various grades, the distances being marked off and under the control of a physician. By means of this exercise the following is accomplished: strengthening of the myocardium and increase of its function, since this muscle behaves like any other muscle of the body; secondly, an increase of blood to the right side of the heart; thirdly, a flushing of the pulmonary circulation; and, lastly, increase of blood in the left side of the heart and in the systemic circulation under normal circumstances. In order to accomplish all this without danger to the patient, it is necessary to pre-suppose certain preëxisting conditions. The first thing to be taken into consideration is that the arteries are in healthy condition, so that the resistance to the emptying of blood from the left side of the heart is not great enough to cause damage, such as producing dilatation of the left ventricle, etc. When atheroma is present, therefore, Oertel's plan cannot be utilized.

Secondly, before beginning the method, it is necessary to determine,

if possible, what is the condition of the myocardium. Our limitation of knowledge comes in here—it is impossible to say positively what we are dealing with—hypertrophy of the heart, with or without dilatation, dilatation alone, myocarditic changes, or what not. In this, then, comes the risk of using the method. Up to date, not a single case has been reported in which harm has been done by the plan. From theoretical considerations, a great many cases ought to exist; they have not occurred, so that the future must decide whether or no the danger is as great as we suppose. Every case of fat heart (extensive atheromatous cases excepted) ought to be treated with this method, or some modification of it (Bad Nauheim). The following argument is conclusive to me: if nothing be done, in bad cases, the patient will be lost, and if this method be used, he can be saved (Oertel says all cases without atheroma). The first trials are to be made under the supervision of the physician, and it is astonishing how soon the heart, and with it the general circulation (dilatation of the arteries and increase in pressure), become accustomed to the additional labor. In the discussion at Wiesbaden, Lichtheim laid especial stress upon the danger of producing stretching (Dehnung) of the ventricular wall. Yet it must be remembered that increased resistance is aimed at in this treatment of fatty overgrowth, as well as an increase of intracardiac pressure. This is accomplished by strengthening of the myocardium, by exercise, and the bringing together of the muscular fibres by means of the removal of fat. That the method has done this has been proven by several cases.

The dietetic treatment which Oertel uses belongs to the subject of treatment of obesity, in which we are only indirectly interested. As for the hydrodynamic treatment of myopathic heart trouble in general, as proposed by Oertel, it applies with great force to some cases of fat heart. Although it has been proven by Schroetter and Lichtheim that withdrawal of water does not increase the density of the blood very much (2–3.4), and although Bamberger has shown that fat people do not suffer from serous plethora, yet, the abstinence or withdrawal of water in some fat people is a principle not to be overlooked. Whatever the effect upon the system may be, which is disputable ground, reduction in the quantity of fluid is sufficient to cause loss of weight in a great many fat people. As far, then, as fat heart is concerned, Oertel's plan is the best in suitable cases; it has its limitations, it requires great care; but until some definite charges beyond theoretical objections are brought up against it, it should be tried in all those cases in which no resistance is offered on the part of the arteries or the lungs.

The medicinal treatment is the same as that of any other trouble of the myocardium (digitalis, nitroglycerine, strophanthus, etc.). I might add that, in my limited experience, morphia is badly borne by these

patients and that a great deal can be accomplished by valerian or some of its preparations.

Total number of cases reported:

	Cases.
Males	88
Females	34
Total	122

Age.	Cases.	Per cent.
Below 10 years	0	0
10–20 "	1	.85
20–30 "	6	5.12
30–40 "	14	11.96+
40–50 "	19	16.23+
50–60 "	29	24.78+
60–70 "	36	30.77+
Over 70 "	12	10.24+
Total	117	

Occupation:

	Active.	Retired.
Males	22	77

Atheroma of arteries:

	Cases
Aorta	21
Coronary	14
Other arteries	4
Total	39

Rupture of heart:

Left side	18
Right side	3
Ventricular septum	1
Auricular septum	1
Locality not stated	1
Rupture near aorta	1
Total	25
Division of superior vena cava	1
Lesion in valves	16

A CASE OF TUMOR OF THE CERVICAL REGION OF THE SPINE. OPERATION AND DEATH.[1]

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AND
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Medical Report by Dr. Lloyd.

This patient was admitted into the writer's wards at the Philadelphia Hospital as a simple case of hemiplegia of several months' duration, and as such cases abound there, and as she did not present obtrusively any special symptoms, several days elapsed before she was prominently brought to my notice. The resident physician, Dr. Talley, then called my attention to the fact that the patient had stiffness of the neck, pain on moving the parts, and a slight prominence on the left side of the spine at about the level of the third cervical vertebra. The following history was elicited:

Catharine W., aged about forty-five years, native of Germany. No history of tubercle, alcoholism, or syphilis obtainable. Four months before her admission to the hospital she said that she had a burning pain in her head. About this time the left leg became weak and she gradually lost power in it. The left arm then began to lose power. It was not stated by the patient very accurately how long after the leg the arm became paretic, but it was a period of some weeks. As in the case of the leg, the paresis of the arm was gradual in its approach until the limb was quite paralyzed. There was not, and never had been, any paresis of the face or tongue. For some time (period not accurately stated) before the appearance of any paretic symptoms the patient had noticed a slight swelling or tumor on the back of the neck immediately to the left of the median line, and corresponding to the third cervical vertebra. The neck was stiff. During sleep she said that her arm "jerked."

Her condition at the time of the first examination was as follows: The left arm was paretic and slightly wasted (?). The left leg was paralyzed, slightly spastic, and gave well-marked ankle clonus and rectus clonus. The patellar reflexes were very much exaggerated in both legs. The muscles of the affected limbs gave no changes to electric excitation. The right arm and leg were positively normal in their motor functions to the most rigid tests, but there was slight ankle clonus on that side, not nearly so great as on the affected, or left, side. There was no anæsthesia anywhere. Mindful that this was a case in which crossed anæsthesia and paresis might exist, I examined the patient's right (sound)

[1] Read before the American Neurological Association, at the meeting of the Congress of American Physicians and Surgeons, Washington, D. C., September, 1888.

arm and leg with the greatest care again and again, but no tests demonstrated any loss of sensation. The same was true of the left (affected) side. There were no subjective symptoms of altered sensibility (paræsthesia), nor to heat or pain. There was no paralysis of any facial, ocular, or lingual muscles of either side, nor any alteration of sensation in these regions. The pupillary reflexes to light and accommodation were normal. She had a marked swelling on the back of the neck, referred to above. It was slightly sensitive to pressure, and seemed very deep-seated. She was very positive in her statement that the tumor in the neck came on four months before the paralytic symptoms, and that these paralytic symptoms came on gradually, beginning in the leg, and afterward involving the arm. She had had intense pain in the cervical region. Dr. de Schweinitz examined the eye-grounds, and found evidence of a slight retinitis in each eye. There were no vasomotor or trophic disturbances.

In consultation with Dr. John B. Deaver the case was again carefully examined and the tumor was considered to be probably a growth from the inside of the spinal canal, extending outward, and slightly compressing the cord. As the cord-compression was yet very limited in area, only involving the left lateral tract, while threatening every day to invade new territory with fatal results, and as the woman was already badly disabled, it was decided that an exploratory incision should be made. This opinion was endorsed, at a subsequent consultation, by Dr. D. Hayes Agnew, who kindly saw the case. The operation was accordingly performed July 17, 1888, by Dr. Deaver, in the presence of Drs. Agnew, Ashhurst, and Mills.

The details of the operation are given by Dr. Deaver in his paper. The laminæ of the third and fourth cervical vertebræ were cut through and the spinous processes removed, thus exposing the theca. The swelling on the side of the spine was found to be thickened and somewhat displaced bony tissue of the vertebra. The bones were evidently the seat of an inflammatory process, and were softer than normal.

The dura mater was thickened and opaque. There was no bulging or swelling within it. As there was no indication for more interference, it was decided not to open the membranes, and accordingly the operation proceeded no further. To all appearances, the whole of the pathological process had been confined to the bones and to the soft parts without. Evidence was altogether lacking in the operation itself of what the exact condition had been which caused such circumscribed pressure upon the cord as only to impinge upon the left motor tract. The respiration of the patient was altered during the latter part of the operation, and again before her death three days later. This alteration consisted in deep, almost gasping inspirations with quite a prolonged interval between. Whether this was caused by any interference with the functions of the phrenic nerve, which is described by some as originating in the fourth cervical segment, I am not able to say. It ceased as the patient rallied from the ether, but returned again a few hours before her death.

The patient's paralysis after the operation did not improve. Her arm and leg were tested as carefully as her condition would admit; she was very weak, but evidently made an unsuccessful effort to throw the palsied limbs into motion when requested to do so. On the third day after the operation her condition changed for the worse, the respiration was altered as described, she became unconscious and died. It would be difficult to explain exactly the mechanism (so to speak) of her death.

It was not expected up to a short time before her end. The surgical conditions were aseptic and good. There was no increase of pressure upon the cord; at least there were no new paralytic symptoms to indicate such. The wound had ample drainage. The alteration in the respiration alone seemed to furnish an explanation.

The notes of the *autopsy* are as follows: The cord presented a perfectly normal appearance up to the region of the operation, where the dura was slightly thickened and congested. On splitting up the dura there was observed on the anterior aspect of the cord at about the level of the second cervical nerves a slight prominence on the left side about five-eighths of an an inch below the decussation of the pyramidal tracts. This prominence was of the same color and apparent consistence as the cord, was somewhat conical, and about the size of the end of a wheat grain. The cord was not cut, but preserved for microscopic examination. Careful examination of the external and internal capsules of both the right and left hemispheres and of the motor tracts through the crura and pons revealed a perfectly normal condition. At the base of the brain the membranes were not involved, and the basilar and other arteries, including the arteria hemorrhagica and middle cerebral, were not atheromatous. The ventricles contained a normal amount of fluid without blood. The centrum ovale was normal, as was the motor cortex to naked eye inspection. The kidneys showed a slight tendency to congestion and to interstitial change.

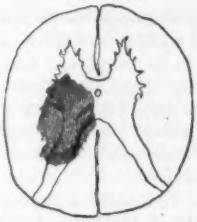
I am indebted to Dr. E. O. Shakespeare for the following report on the pathological appearances of the sections of the cord which he made:

Three segments of the cord were examined—the one above the lesion, the one containing the lesion, and the next one below. The top of the upper segment shows oil globules in the posterior columns and in the cerebellar tracts. Below in this segment is a circumscribed lesion involving the gray matter from the middle line forward as far as the beginning of the anterior horn and back to one-half the length of the posterior horn; it also involves the crossed pyramidal tracts; also slightly involves the multipolar cells in the anterior horn. An upper section from the middle segment involves the gray matter beginning about at the posterior edge of the central canal back to the edge of the gray commissure, and involving the posterior left horn and the outer border of the gray matter extending into the anterior horn of the left side; the whole of the left lateral column is involved at this level, including, of course, the motor tracts. The posterior root zone is here also slightly involved. There is a small area of involvement on the right side in the anterior column; also slight at exit of the right anterior nerves. The middle sections of the middle segment show unilateral involvement of the gray matter (left side) and limited involvement of the trophic cells on the right side. The anterior part of the columns of Burdach is involved. The whole of the lateral column is involved (this section corresponding to the level of the projection seen post-mortem), and on the anterior part is an intensification of the lesion. The lower section of the middle segment involves about the same as the last, except that the column of Burdach is involved further back. The right anterior horn is slightly involved, also a limited islet in the right column of Burdach near the column of Clark. Middle of

FIG. 1.

Three-quarters inch above projection, showing area of ascending degeneration.

FIG. 2.



Above projection, showing area of hemorrhagic extravasation.

FIG. 3.

Still above projection, showing area of hemorrhagic extravasation.

FIG. 4.

Top of projection, showing projection and area of hemorrhagic extravasation.

FIG. 5.

Little below projection, showing area of hemorrhagic extravasation.

FIG. 6.

Bottom of middle segment, showing area of hemorrhagic extravasation.

lower segment shows the lesions limited sharply to the gray matter of the left side posterior to the central canal, anterior parts of the posterior horns, and the crossed pyramidal tracts. The lesion consists, in the main, of an extravasation of blood with a more or less complete destruction of the gray and white matter involved. There is also some inflammatory action principally in the neighborhood of the peripheral portions of the hemorrhage.

OBSERVATIONS.—The present appears to be an era of operative interference in diseases of the cerebro-spinal system. It is well, therefore, to publish both the unsuccessful and successful cases. From the former is sometimes learned more than from the latter. This case, it now appears, was beyond the aid of surgery. The lesion was too far anterior, and too deep in the substance of the cord itself to be reached by the knife. It was, at least, an instance of successful localization of a lesion in the cord. The manner of the patient's death creates a suspicion that the phrenic was in some way interfered with; and this may serve as a possible danger-signal to those who are about to operate upon the cervical spine. On the other hand, it must be remembered that in our case the bones were involved in an inflammatory process.

Surgical Report by Dr. Deaver.

July 16, 1888. The day previous to the operation, the patient's bowels were moved with a saline purgative; the urine examined chemically and microscopically, proving to be negative; and the heart and lungs carefully examined, eliciting no organic trouble. She was given first a warm water bath, then a boric acid bath, after which the neck was washed with turpentine, then scrubbed with soap and water, again washed with ether, alcohol, and enveloped with a towel wrung out of a solution of 1 : 1000 bichloride of mercury.

Operation, 17th, 1 P. M. The patient having been etherized, was placed upon the table, and with Prof. D. Hayes Agnew and Prof. John Ashhurst, Jr., assisting, and in the presence of Drs. J. Hendrie Lloyd and Charles K. Mills, I made a longitudinal incision over the median line of the nape of the neck, extending a little distance above and below and down to the spines of the affected vertebræ; then separated the muscular attachment and reflected the soft parts laterally on either side as far as the junction of the transverse processes with the pedicles of the vertebræ, thus clearing the spinous processes, as well as the laminæ of the third and fourth cervical vertebræ and their ligamentous attachments, when was exposed a bony tumor, convex from above downward and from side to side, being much greater upon the left side The soft parts thus far dealt with were, macroscopically at least, normal.

The spinous processes were removed at their base with a pair of bone pliers, then the laminæ on each side were divided behind the articular processes with the same instrument. Upon making the section of the spinous processes, they were found to be a trifle softened, while the laminæ, particularly on the left side, the side corresponding to the most prominent part of the tumor, were softened and enlarged, the cancellous tissue of same containing some pus; in other words, the condition was that of chronic ostitis with perhaps some osteo-myelitis. Upon the removal of the laminæ, which were adherent to the dura mater, the dura mater was seen intact at the bottom of the wound, the connective tissue normally existing here having been absorbed; neither were there any bloodvessels present (the posterior longitudinal spinal veins and their connecting branches, which exist here normally, being absent). The dura mater did not rise up into the bottom of the wound when the bone was removed; it presented an opaque appearance and was quite resisting to the sense of touch, and appeared thickened, having shared in the inflammation of the bone. It was opened with an exploring needle, with purely negative results, and was tougher than normal.

The operation, so far as removing any more tissue, was completed and it remained to readjust, fix, and dress the soft parts.

A rubber drainage-tube (medium size) was placed in the wound, the muscles and the deep fascia covering them sewed with catgut, and the skin and superficial fascia with silver wire. The wound was dressed antiseptically, first dusting on iodoform, covering with protective, wet with a solution of 1 : 2000 of bichloride of mercury, twelve layers of bichloride gauze wrung out of a solution of 1 : 2000 of bichloride of mercury, twelve layers of dry bichloride gauze, these covered with bichloride cotton, and, lastly, with an antiseptic bandage. During the operation the strictest antisepsis was observed, the wound being continually irrigated with a solution of 1 : 4000 of bichloride of mercury. Im-

mediately after the operation the temperature and pulse were normal, the respiration being of the character described by Dr. Lloyd.

Patient sent back to ward; ordered application of dry heat to body and extremities; ammonium carbonate, grains five every two hours; milk and lime-water.

4 P. M., after the operation, the temperature was 97°, respiration 21, pulse 104. 6.30 P. M., temperature 96⅘°, pulse 92, respiration 28.

18th. Patient passed quite a comfortable night and seemed as well as before operation; mind perfectly clear; pulse 80, respiration 28, temperature 99⅖°; dressings examined and found to be dry and in position. The respiration being of the same character as spoken of above, I did not think it injudicious to order $\frac{1}{150}$th of a grain of sulphate of atropia hypodermatically twice daily.

19th. The patient's breathing becoming more laborious, and her general condition alarming the resident physician, I was summoned to go to the hospital. Upon my arrival, at 12 M., the condition was as follows: pulse 100, respiration 32, temperature 99¼°. The respirations being quite shallow, electricity was applied; one pole over the side of neck corresponding to the origin of the phrenic nerve; the other, to the lower margin of the chest, with the idea of stimulating the diaphragm. I ordered the ammonium carbonate and the atropia to be continued, with the addition of one-half ounce of whiskey every two hours. The dressing being slightly soiled, I dressed the wound, when I found it healed except the track containing the drainage tube; there being no discharge from this, I removed it and washed out the track with a solution of 1 : 2000 bichloride of mercury.

20th. No improvement; respiration 40, pulse 150, temperature 100⅘°. Thinking that her condition might be partly due to pressure from collection in the bottom of the wound, I removed the dressings, took out two stitches, broke up the union and, examining the wound very carefully, I found it to be clear; I, therefore, dressed it and ordered the treatment continued.

Patient died the following morning at 4.30.

The cause of death I attributed to inhibition of the phrenic centre, there being no other possible explanation at which I could arrive.

My reasons for attributing the cause of death to phrenic inhibition are that, prior to the operation, the respirations were normal, and that during the early part of the operation nothing abnormal was noted in the breathing, but at the latter part it was noticed to be changed and answering to the description given by Dr. Lloyd. The only explanation I can give for this is, that the spinal cord about the position of the phrenic centre might possibly have been injured with the exploring needle, or by some other condition not recognized. The operation, up to the time of introducing the needle, could not in any way have injured the cord, as the dura mater was in no way interfered with, with the exception of separating it from the adherent laminæ when it was left intact at the bottom of the wound, and the needle passed through it to determine whether or not there was any further mischief. In the future, if I have the opportunity to operate upon the cervical portion of the

spinal cord, I certainly will not use the exploring needle as a means of diagnosis, but, in preference, will lay open the dura mater and expose to inspection the deeper parts; this being, to my mind, a cleaner, more satisfactory, and, to the patient, a less dangerous procedure. In operations upon the cord in its remaining regions the use of the exploring needle would not be so objectionable. I believe this is the first time in this country that an operation has been undertaken with the view of removing a spinal cord tumor, and that but two other surgeons elsewhere have preceded me, namely, Mr. Macewen and Mr. Horsley. Mr. Macewen's cases were not really tumors of the cord, but of the connective tissue between the dura mater and the spinal canal. In view of my again meeting with a similar case, I certainly would advise operative interference carried to the extent of exploration at least, which shall determine the advisability of proceeding further, and I do not consider that the result here obtained should discourage us at all in furthering the good work already done upon the cerebro-spinal axis.

CONGENITAL CLOUDING OF THE CORNEA AFFECTING TWO SISTERS.

By Robert L. Randolph, M.D.,
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This condition is of such rare occurrence that both cases seem to be worthy of record.

Case I.—K. M., four years old. Blue irides. A bluish haze of both corneæ. Some nystagmus. Slight conjunctival injection. The clouding appears to involve the epithelial layers of the cornea, together with the upper layers of the *substantia propria*. Pupils react perfectly. Can discern large objects at a short distance. Both eyes of normal size. The child prefers shady places and avoids the bright light of the sun. Bad teeth, but not the typical Hutchinson's teeth. Very profuse secretion of saliva. Excoriation on upper lip from a long existing running at the nose.

Head well developed, and intellect in keeping with her age. The skin smooth and white. The limbs straight and well formed. Has a good appetite, rosy cheeks, and runs all about. The family physician tells me that at birth the corneæ were almost perfectly blue, and since her birth he has noticed that the clouding has grown less and less, and it is only within the past year that the irides could be seen. The epithelial layers of the corneæ have a granular appearance and lack the usual lustre. The fundus is not to be seen.

Case II.—Jeannette M., ten years old; sister of the former. Well developed and bright. Blue irides. Her mother says that at birth her eyes were exactly like those of her sister. Dr. Cromwell, the family

physician, has observed since he knew the family—now six years—that the corneæ have been gradually clearing up. There is present the same distinct bluish haze as in the case of the younger sister, but to a much less degree. The corneæ have not the lustre peculiar to the healthy eye, but still they lack the granular appearance seen in Case I. There is no nystagmus. The child has suffered off and on during her entire life with coryza, the excoriated upper lip giving evidence to this fact. Teeth very unsound, but not as much affected as in Case I. Like her sister, she dislikes bright, sunny days. It is possible to see the fundus, but not distinctly. It appears as though seen through a cloud. She uses her eyes for near work, and reads with considerable ease. The clouding, as is the case with her sister, pervades the superficial layers of the corneæ, and is homogeneous throughout, except in the case of the left eye, in which the returning transparency seems to be more marked at the upper border of the corneæ.

The slight photophobia present in both cases was the only annoying subjective symptom. Whether this latter—as is usually the case in corneal affections—is a reflex disturbance, having its origin in ciliary irritation, I am unable to say. It could have been due to rays of light playing upon a retina not yet accustomed to bright light, a retina which has always been shaded by what the Germans call a darkening—Verdunkelung—of the cornea. And this photophobia was less marked in the older case, seeming to indicate that with the fading away of the corneal cloud the retina was gradually accustoming itself to the increased supply of light as well as to the brighter quality of the rays.

I questioned the mother clearly, but could draw out no specific history. The father had become bald quite early in life. The mother had had eight children. At the birth of the younger of these two sisters she had experienced a great nervous shock, which I do not regard as signifying anything pertinent. After Case I. the mother was delivered of one more child, which died in convulsions six weeks after birth.

I should call the affection then a *diffuse interstitial keratitis*, sluggish in character as it frequently is, indeed almost passive, beginning in the latter part of pregnancy, and gradually disappearing with the further growth and constitutional development of the child.

As I have said, I was unable to gather any information from the mother which would indicate a specific origin, but the whole aspect of the disease, its rarity, and its occurrence in sisters, seem to point to some single and definite cause, and that was most probably an hereditary taint.

The subject of interstitial keratitis, particularly from the point of view of its relations to inherited syphilis, has been the theme of many discussions, and notable among these latter stands out the work of Mr. Jonathan Hutchinson. In his *Clinical Memoir*,[1] Mr. Hutchinson takes the ground that this form of keratitis is the effect of inherited syphilis.

[1] Syphilitic Diseases of the Eye and Ear. A clinical memoir by Jonathan Hutchinson, F.R.C.S. London, 1863.

He draws his conclusions from the observation of one hundred and two cases of interstitial keratitis. The point in the diagnosis upon which he lays most particular stress, as indicating inherited syphilis, is the condition of the teeth. "The subjects of this form of corneal inflammation," he says, "almost invariably have their upper central incisor-teeth of the permanent set dwarfed and notched in a peculiar and characteristic manner," the condition commonly known as the "Hutchinson teeth." He has never seen a typical form of interstitial keratitis in which the teeth were of normal size and shape.

Parinaud[1] regards the miscarriages of the mother, the number of deaths among the brothers and sisters as the important factors which should lead us to attribute a case of interstitial keratitis to inherited syphilis. In twenty-three out of thirty-two cases he finds these two points well marked. He thinks that diffuse interstitial keratitis is a manifestation of *syphilis atténuée* in the parents. In conjunction with the disease he has frequently found changes in the teeth. These changes, however, may accompany other affections.

The majority of ophthalmic surgeons of the present day, I think, attribute the disease to hereditary syphilis,[2] though this theory has been strongly opposed by Panas, Buffé, Mooren, and others. Panas doubts very seriously the syphilitic origin of the keratitis. "The abnormal configuration of the teeth," he says, "is not always constant, and when it does exist it recalls exactly what we see in rachitis." Another point which, he thinks, strengthens the idea that it has a common cause with rachitis, is that mercurials avail but little in its treatment, and that iodide of potash gives the best results. He suggests the name kératite cachectique diffuse instead of kératite hérédito-syphilitique. Neither Hutchinson nor Panas alludes in his discussion to a congenital form of interstitial keratitis; in short, to cases similar to the ones now reported by myself. Hutchinson[3] asserts that he has never witnessed the occurrence of interstitial keratitis earlier than at the age of two years. The youngest case reported by Panas[4] in his remarks was of a boy twelve years old.

It is undoubtedly true that in a large proportion of cases the disease is developed between the ages of eight and fifteen.

Although the cases reported by me were congenital, I do not regard the disease in itself as differing in one whit from that form of keratitis which has been fruitful of so much discussion, and to which I have just alluded. The outbreak, however, of the inflammation *in utero*, and the exceeding rarity of such an occurrence would appear to justify me in assigning these two cases, and like ones, to a separate and distinct branch

[1] Arch. gén. de Méd., Nov. 1883.
[2] Gaz. des Hôp., 1871, Nos. 139, 140, 142.
[3] Clinical Memoir, etc., p. 116.
[4] Gaz. des Hôp., No. 142.

of the subject. It behooves me, then, to touch more particularly upon the congenital forms of interstitial keratitis.

The following description of the affection was given eighty years ago by a French writer:[1]

"The child comes into the world with a peculiar form of blindness, due to the darkening of the transparent cornea. This latter is of a dull blue color, and thicker than in the normal state. This trouble appears to be produced by a relaxation of the tissue of the transparent cornea by the presence of a lymphatic humor which is absorbed after birth, most often without medical attention, the cornea becoming transparent at the end of a few months. In such a case the transparency appears first on the outer edge of the cornea, then in a circular direction around its border, and so, from place to place, until the entire cornea has assumed its natural color."

The first cases reported were by Wardrop, in 1739, and by Klinkosh, in 1766. In 1790 there appeared a very interesting report of three cases by Mr. Farar.[2] The children were sisters, and they were born with corneæ so opaque that the irides could not be seen. The opacities gradually disappeared without treatment. In the first and second cases the recovery was complete in ten months after birth. In the third case the clouding had markedly diminished at the end of the first year. At this point he lost sight of the case.

In 1841 Mr. S. Crompton,[3] of Manchester, reported two cases. The children were brothers. One of the cases seems to have been of doubtful origin, purulent ophthalmia might have been the cause. There was no doubt about the younger one. For a history of the older boy the author says he relied very largely upon the testimony of the mother. In the same year I find two cases reported by Mr. R. Middlemore,[4] of Birmingham. When first seen the corneæ were so opaque that the irides were not visible. The cloudings finally disappeared, leaving the corneæ wholly transparent.

In 1855 a most interesting history of this subject was given by Dr. Fronmüller,[5] in his monograph on "Congenital Cloudings of the Cornea." According to Fronmüller, the highest grade of the affection is sclerophthalmus, which is an arrest in the development of the eye, taking place in the first or second months of pregnancy, at the time when there is no difference between the cornea and the sclera, when the former is thick, flat, leucomatous. There is, at this stage, no trace of the anterior chamber, and the iris lies immediately under the cornea. With this malformation we necessarily have microphthalmus. The peripheral

[1] Mayor: Essai sur quelque maladies congénitales des yeux. Une thèse inaugurale. Montpellier, 1808.

[2] An Account of a Very Uncommon Blindness in the Eyes of Newly Born Children. Medical Communications, vol. ii, London, 1790.

[3] Medical Gazette, vol. xxvii., London, 1841.

[4] Medical Gazette, vol. xxviii., London, 1841.

[5] Ueber die angeborenen Hornhautverdunklungen. Vierteljahrschrift für die prak. Heilkunde, B. xlv. S. 57-70.

cloudings generally have their existence in the third and fourth months of pregnancy, at the time when the watery elements and the anterior chamber form, and when the cornea begins to elevate itself and the lamellar formation is in process of growth. The other congenital corneal cloudings date from the later months of pregnancy. He divides the whole subject into two classes: First, *congenital leucomatous opacities*, in which the lamellar structure of the cornea is absent and there is an arrest in development, the eye being always reduced in size; the prognosis is absolutely bad. Second, *congenital cloudy opacities*, having their seat immediately under the external epithelium of the cornea, the latter preserving its normal texture; the prognosis here is favorable.

The only case that I can find reported in the American medical journals is that by Dr. Bethune,[1] in 1870. The patient was twenty-five years old. The mother had noticed at birth an opacity the size of a pin's head, and instead of disappearing it had progressively increased in size. This cannot, though, be regarded as a perfectly fair and typical case, for too many important points in the history depended for their existence simply upon the mother's recollection of what the condition was twenty-five years before. It was quite possible that this opacity had its origin in purulent ophthalmia.

The most complete history of the subject I find is that by Hubert.[2] "It may be due," he says, "to an arrest in development, or possibly the clearing up of the cornea goes on unusually slowly, and when delivery comes it is not yet transparent, or it may be the cornea underwent during intra-uterine life an inflammation the traces of which at birth had not entirely disappeared." He refers to the fact, however, that there is only one case on record in which the condition of the eye was due to a clearly defined intra-uterine disease. This case, he says, occurred in the practice of M. Panas, and is that of a woman twenty-five years old. The right eye was perfect in every respect. The left eye was less than half the normal size, and had all the muscular movements except abduction, which was rather imperfect. Of course, there was no light-perception. The patient affirmed that she was born with the eye just as small as it was then, and, to confirm her statement, the conformation of the orbit showed an arrest in development in proportion to the duration of the condition. The mother had gone through with smallpox during pregnancy, and the patient was born with marks of the disease on her body. There were still clearly defined scars on her breasts. Syphilis was absolutely excluded. Here, then, we have the eye disease due to the variola. The essay comprises a treatise on the embryology of the cornea, its

[1] Boston Medical and Surgical Journal, vol. v., 1870.

[2] Étude sur le développment de la cornée et sur les opacités congénitales de cette membrane. Thèse, Paris, 1876.

normal histology, and the pathological changes seen in congenital opacities. He inclines to Hutchinson's view as to its origin.

In 1880 M. Lèclere,[1] in an article on congenital opacities of the cornea, reported seven cases in addition to the ones just quoted in this article. He concludes that such affections are the results of intra-uterine inflammation. In 1883 Couzon[2] reports a case occurring in the practice of Prof. Parinaud. The infant was ten days old when first seen, and was born with opaque corneæ. The latter were the seat of an interstitial keratitis, characterized by a diffuse infiltration which occupied the cornea in its whole extent. The cornea had a pale bluish tint. The opacity hid the iris completely from view. Totally blind. No pericorneal injection. History of congenital syphilis. The child was put on iod. potash, and in three months the clouding on the right cornea had nearly disappeared, that on the left cornea had diminished in intensity.

From the preceding it will be seen that the weight of evidence seems to be in favor of the syphilitic theory. If, then, hereditary syphilis be the cause of that form of keratitis most often met with in children between the ages of eight and fifteen, there would be nothing in conflict with such an idea to suppose that this cause can and does sometimes exert its activity at a much earlier stage in the life of the child.

There is, however, another point of view, from which many scientific observers have regarded such cases. Hubert, in his essay, though inclining to the Hutchinson theory, suggests the possibility of such corneal cloudings being due to retarded development. Fronmüller also touches upon this point. One of the strongest advocates of this theory is Steffan.[3] The latter bases his conclusions upon the anatomical examination of an eye in which the cornea was leucomatous everywhere, except at the periphery. He thinks that all such conditions are due to a retarded development on the part of the lens, the sac of the latter being at birth adherent to the posterior wall of the cornea, and thus the cornea was practically wrapped in darkness. Normally the cornea and lens have parted at birth.

The following three cases, occurring in the practice of M. Jules Gérard,[4] a veterinary surgeon, would seem to speak in favor of this theory; certainly the syphilitic theory can be excluded. The colts had a common mother and father. The corneæ in each case were completely opaque, and the affection had evidently commenced *in utero*. They were treated with the ointment of the red oxide of mercury, and they cleared up completely.

[1] Des opacités congénitales de la cornée. Paris, Thèse, 1880.

[2] Contribution à l'étude de la kératite interstitielle dans la syphilis héréditaire et dans la syphilis acquise. Ibid., 1883.

[3] Steffan: Beitrag zur Erklärung angeborener Anomalien der Hornhaut. Monatsblätter für Augenheilkunde, July and August, 1867, S. 209–217.

[4] Kératite du fœtus de l'éspèce chevaline. Archives Médicales Belges, xii., 1870.

Another case is reported by Rückert,[1] and is that of congenital clouding of the cornea in a hog. Rückert admits the possibility of intrauterine inflammations as the cause of such anomalies, but in his case he says that inflammation could be excluded. "Against its inflammatory origin speaks the nature of the tissue in the opaque portion of the cornea. It was impossible to distinguish it from scleral tissue. It was rather a high process of organization which had taken place, for which the peculiar vascular conditions of the area concerned might offer a solution."

It is evident from the brief review of the literature of the subject which I have given, that under the designation of congenital clouding of the cornea conditions etiologically and pathologically different have been described. It seems plain that cases in which the cornea presents a fibrous structure like that of the sclera, in which the lens has not separated from the cornea, in which there is microphthalmus, and in which there is no tendency to improvement of these abnormal conditions, should be separated from the cases in which the only pathological change in the eye is a superficial bluish cloudiness, which has a marked tendency to clear up after birth. The cases belonging to the first category we need not hesitate to refer to arrest or abnormalities of development.

Furthermore, it is urged that, as we have undoubted evidence of arrested development in the first set of cases, cases such as I report may be regarded simply as the slighter grades of this abnormal development. In opposition to this view it is to be said that there are little analogy and not sufficient evidence of transitional forms between the cases of undoubted arrest of development, and the cases of simple diffuse clouding of the corneæ, without other ocular changes. These latter cases of diffuse clouding of the corneæ are indistinguishable in their general aspect from the well-known instances of diffuse interstitial keratitis occurring in childhood, and it is reasonable to suppose that they depend upon similar pathological changes. Again, it will be remembered that physical defects, which clearly owe their existence to a want of completeness in the developmental process of the fœtus, rarely, if ever, adjust themselves in the infant to the proper order of things. Consider the coloboma of the iris, of the choroid, of the lids, the persisting pupillary membrane, and hyaloid artery, all these indicate imperfect and unusual terminations to the process of development in particular regions of the eye. Such imperfections are permanent, they are not remedied under the changed conditions surrounding the subject after birth. And this is quite as true of other parts of the body as well as of the eye.

I am inclined, therefore, to refer my cases of congenital corneal cloud-

[1] Rückert: Ein Beitrag zur Lehre von den angeborenen Hornhauttrübungen. Diss. München, 1885.

ing, and similar ones, to intra-uterine inflammation and not to arrest of development.

It will be observed that in nearly every instance more than one member of the same family is afflicted, that relationship plays an important rôle, relationship the result of a common father and mother. In other words, that the offspring were exposed to some specific condition or cause. Such troubles occur in all classes of a population, among the well-fed and under-fed, among the residents in the most healthy situations as well as those of the most crowded cities. These last facts would suggest other than a strumous origin; they would, on the contrary, together with the other well-established symptoms which I have mentioned, speak in favor of the syphilitic origin of such affections.

While this is the position which I am inclined to assume regarding the pathology and etiology of this affection, it must be admitted that considerable caution should be exercised before reaching any positive conclusion on these disputed points. The fact that an apparently similar affection has been observed in the domestic animals is not easily reconcilable with the theory of its syphilitic origin. Undoubtedly, a conservative view would admit different causes as capable of producing this disease. I am, however, so much impressed with the resemblance between the congenital and the post-natal forms of diffuse interstitial keratitis and the syphilitic origin seems so well established for the latter, and has been demonstrated for a certain number of cases of the former, that for the present, at least, I prefer to regard the congenital and the post-natal forms as etiologically as well as pathologically the same.

REMOVAL OF THE UTERINE APPENDAGES.

A REPORT OF THE MORE REMOTE RESULTS.

By J. Halliday Croom, M.D., F.R.C.P.Ed., F.R.S.E.,

PHYSICIAN TO AND CLINICAL LECTURER ON DISEASES OF WOMEN AT THE ROYAL INFIRMARY; PHYSICIAN TO THE ROYAL MATERNITY HOSPITAL; AND LECTURER ON MIDWIFERY AND DISEASES OF WOMEN IN THE SCHOOL OF MEDICINE, EDINBURGH.

The present communication aims to present the results, after the lapse of not less than a year, of the removal of the uterine appendages for various morbid conditions, and to discuss the immediate results, risks, and technique of the operation generally.

The operation has been performed 34 times, as shown in the subjoined list:

Bleeding fibroid	6 times.
Bleeding uterus	2 "
Simple dysmenorrhœa	3 "
Hæmatosalpinx	4 "
Double hydrosalpinx	1 time.
Simple or gonorrhœal salpingo-oöphoritis	18 times.

In the cases of the fibroid tumors the results have been, except in one case, entirely satisfactory, both with regard to the cessation of the hemorrhage and the diminution of the tumor.

In three cases the women were married, under thirty years of age, and sterile. The tumors were small, soft, and very hemorrhagic. In none of these cases was the uterus larger than a three months' pregnancy. The patients had undergone all the usual treatment without any beneficial result. The net result now, at the end of not less than a year, has been the entire cessation of hemorrhage, beyond an occasional menstruation in all of the three, and the almost entire disappearance of the tumor in one. In the other two the uterus is much less; in both cases lying well down in the pelvis.

In the fourth case the fibroid tumor reached two fingers' breadth above the umbilicus. The hemorrhage had been continuous for months, and the woman unable to work. In addition to the hemorrhage, she complained of great pain in the left side. In this case I was obliged to use the clamp and cautery, as, owing to the splitting and shortening of the broad ligament, the Staffordshire knot was unavailable. The operation was performed one and a half years ago, and the result is, the tumor is half way between the umbilicus and pubes, and the hemorrhage has entirely ceased. In respect of the pain in the left side, this was, no doubt, due to a cyst about the size of a hen's egg in the left ovary. The pain, also, has disappeared. This symptom of pain, associated with fibroids, seems to me often due to this cause. Although it cannot be classed with the present series, yet I may refer to a case upon which I operated recently, simply for the relief of pain associated with a fibroid tumor—the tumor being neither hemorrhagic nor increasing in size. The left ovary presented a cyst the size of a goose egg. Its removal was accompanied by entire relief of the pain. The former case seems to me a particularly satisfactory one, as such complete cessation of hemorrhage is not usually obtained in the large tumors. It is, I believe, generally recognized that the best results are obtained where the uterus is not larger than a four months' pregnancy. In the fifth case there has, at the end of fourteen months, been neither a cessation of the hemorrhage nor any diminution of the tumor, nor relief from the general discomfort which it caused. As the tumor was intrapelvic—apparently interstitial—and the uterine cavity not much enlarged; as the ovaries were entirely removed, and as much of the tubes as was

possible, quite as much as in the other cases—it seemed just the case in which one might reasonably expect a complete cure, and I cannot venture to suggest an explanation for my complete failure.

The sixth case has scarcely completed the required year. She was a multipara, of thirty-six years, with a fibroid about the size of a five months' pregnancy. Her hemorrhage had been so profuse that she had to be brought to the hospital in an ambulance wagon. After a few weeks' rest the ovaries and tubes were removed in the ordinary way. Two months afterward the patient had a rather severe hemorrhage. Since then—seven months—she has been quite free. The size of the tumor remains unaltered.

About a year ago, September, 1887, I began the treatment introduced by Apostoli, and have avoided the removal of the appendages for fibroid tumor, hoping that the electric treatment would supersede the abdominal section. In all my private cases the electric current has been administered and directly superintended by Dr. Milne Murray, and in the hospital by Dr. Haig Ferguson, under Dr. Murray's direction. I mention this because Dr. Murray's name is so well known with regard to electric work as to be a guarantee that the administration was carefully and scientifically conducted, and I am obliged to say most reluctantly that the results have not, by any means, realized my anticipation. In none of the cases have the results, so far, been permanent. In all there was distinct improvement as regards hemorrhage and general comfort *while the treatment lasted*, and in some few cases there was a temporary diminution in the size of the tumor.

This is not the place for me to discuss this method and its results in detail. I only wish here to say that, so far as my experience of it goes, it does not compete with the abdominal operation—that is, in those fibroid tumors which seriously compromise the health and life of the patient—and these are the only cases in which, in my opinion, the removal of the appendages is justified. It may be premature to offer an opinion, but, from my year's experience of Apostoli's method, I should be inclined to place electricity so applied among the hæmostatics and palliatives, not among the methods of cure—occupying a position similar to many well-known drugs. Certainly I have seen graver risks to life with this method than I have ever met with in removing the ovaries for bleeding fibroids.

With regard to the case of *bleeding uterus;* by this term I mean that the uterus was perfectly normal in size and that nothing could be felt abnormal in the pelvis beyond slightly enlarged and tender ovaries. The patient was a single girl of twenty-four years of age. She had been under my care for four years for persistent and continuous uterine hemorrhage. With the exception of the Apostoli method, with which I was not then acquainted, I believe we exhausted every means for

checking hemorrhage. In spite of all, she bled on and was completely unable to perform any duties. As a last resource, I removed her ovaries nearly two years ago. There has been no return of hemorrhage nor even of menstruation, and the girl is now in robust health and performing the arduous duties of teacher in a Board school.

The second case of bleeding uterus was almost identical—a single woman of twenty-five, in whom nothing was found abnormal on local examination, but who had suffered from constant hemorrhage for over two years. The operation was performed in July, 1886, more than two years ago. She had irregular hemorrhages for the first year. During the past year they have ceased. She is now well and able for her work. She is now employed as a domestic servant.

Three times I have removed the appendages for *simple dysmenorrhœa* in young unmarried women. I know such an operation is coming very near to dangerous ground. I know how open such interference is to abuse, and how carefully operations under such circumstances must be weighed and explained. In these three cases I could find nothing morbid in the uterus or ovaries before operation, and the changes in the ovaries after removal were trifling. The patients were comparatively well between the periods, but during the menstrual week the suffering was so great that they were unable to retain their situations. They had all been under treatment for years, and it was not without misgiving and entirely as a last resort to enable the girls to gain their livelihood that the operation was performed. In each case the desired result has been obtained. In two cases menstruation has been entirely in abeyance ever since—eighteen months ago—and in the third, though the girl menstruates irregularly, she does so without pain.

Four times the operation has been performed for *hæmato-salpinx*. Two have been complete failures in respect of ultimate result. One was a left-sided hæmato-salpinx about the size of a fœtal head. The tumor, which consisted of the enormously dilated proximal end of the left Fallopian tube with the distal end thickened and the fimbriæ spread out over it, was very adherent and burst in my attempt to remove it.

When I first felt it, it was about the size of a fœtal head; but on extraction, after rupture, it was no bigger than a good-sized orange. I was under the impression at the time that it was a tubal pregnancy, and that the ovum had escaped into the abdominal cavity. This was, however, a mistake, as no trace of a decidua or anything to indicate pregnancy could be found. It was an unusually large, possibly unique, hæmato-salpinx. The appendages were removed July, 1886. The report, October, 1888, is that, so far as hemorrhage is concerned, she still has flooding, has constant pelvic pain, and is in general bad health. Locally, no morbid condition can be discovered. The net result is failure.

The second case was a married woman, aged twenty-five, with constant pelvic pain and hemorrhage. The local condition was: The uterus retroverted; right ovary lying low down, corresponding tube very tender and dilated; left tube as large as a Cambridge sausage and coiled round uterus to the back; left ovary not distinctly made out. For two months after admission to hospital I perseveringly tried hot water, rest, ergot, etc., but she continued to bleed in spite of all. Therefore, after duly explaining the operation to her, I operated, and found the left tube much larger than my examination gave me to believe—as big as a good-sized orange, and filled with clots. It ruptured during removal. The left tube was as thick as the little finger. As the ovaries could be of no service without the tubes, I removed them also. Operation, July, 1886. In autumn, 1888, patient still has hemorrhages and pelvic pain. Local examination reveals no morbid condition. Result, a failure.

In the third case the cure has been complete. It was a left-sided hæmatosalpinx. Both ovaries were removed. There has been no hemorrhage since.

The fourth case has so far been a success, but she has not yet completed her year of probation. It seems to me remarkable that the first two should continue to bleed and the two latter cease. The operations were identical, so far as the removal of the organs is concerned; in each I merely state the facts, and offer no explanation. The hydrosalpinx case is well and free from any symptom.

With regard to the last class, viz., cases of *salpingo-oöphoritis*, either of puerperal or gonorrhœal origin, which form the largest group, including 18 cases, the classic symptoms were all present, viz.:

a. Premenstrual dysmenorrhœa.
b. Constant pelvic pain.
c. Sterility.
d. Usually menorrhagia.
e. Inability for work.
f. Dyspareunia.
g. General bad health.

In every case those symptoms have been present for lengthened periods varying from six to fifteen years, and in all of them other treatment had been continuously tried without avail. Out of the 18, I can give no record in 4. In 2 cases ventral hernia occurred. These herniæ exist to such an extent as to detract very much from any benefit the patients have received from the operation. In one of these cases the hernia is complicated with a pelvi-abdominal fistula, through which the patient has a monthly discharge in addition to the ordinary vaginal one. This patient menstruates regularly, as, owing to extensive adhesions, one of the ovaries had to be left. The following is a report of the case:

She had been married for twelve years, and contracted gonorrhœa shortly after her marriage; ever since she had been a constant sufferer; sterility with dysmenorrhœa, and inability to perform her marital function. Per vaginam the uterus, ovaries, and tubes were matted in one solid mass. Bimanually, under chloroform, the uterus could be felt lying forward, fixed firmly on either side by two solid lumps occupying each broad ligament. I removed the ovary and tube on the left side with great difficulty, they were so firmly adherent. The ovary was enlarged and cystic, and the tube much thickened and containing pus. I removed the right tube after much trouble, and found it acutely inflamed and thickened. The corresponding ovary I could not remove; it was small and firmly adherent; I, therefore, left it. The operation was a difficult one, the roof of the pelvis being completely closed in by adhesions.

There are three points about this case to which I specially wish to draw attention. First. The abdominal wound did not completely heal, leaving a small sinus at the lower angle. Through this sinus there has been a hemorrhagic discharge at each menstrual period. The wound is perfectly free from any sanguineous discharge from its edges. The hemorrhage is not, therefore, in any sense vicarious, but wells up from the pelvis through a sinus three inches in length. This discharge has been regular every menstrual period, and simultaneously with and in addition to the ordinary menstrual discharge per vaginam. Second. Menstruation has continued with regularity ever since, but without any pain or distress, and that although one ovary still remains on the pelvis. Third. The patient got immediate and continuous relief, and had abundantly expressed before my class her opinion that her relief was well worth the risk.

Such was my report of the case in December, 1886. Now, after the lapse of two years, I am obliged to place the case among the comparative failures, as the discomfort of the hernia and fistula combined is sufficient to counterbalance the other benefit of the operation.

Of the remaining 12: in 5, at the end of a year, the cure has been complete—*i. e.*, the patients now enjoy good health and are able to pursue their ordinary avocations. Of these 5 cases, I possess written records from themselves. 1 has been a complete failure, owing to some parametric inflammation succeeding the operation. The patient menstruates occasionally, and is never free from pelvic pain. 6 present only partial cure, as follows:

5 still have pelvic pain, in 1 owing to one ovary being irremovable, in the other 3 to parametric inflammation. The fifth case was that of a nervous hysterical woman. Her pelvic condition was not, as I then believed, the main factor in her distress. The removal of the appendages has given only partial relief. In a similar case I should

not operate. It is noteworthy that in this case the removal of her ovaries has increased her sexual appetite in quite a marked degree.

In the sixth case there is persistent dyspareunia, the cause of which is not apparent on local examination.

In this group of 18, in 6 menstruation has been entirely in abeyance since the operation; 10 menstruate at irregular intervals; 2, in whom one ovary was left, menstruate perfectly regularly.

In all the 34 cases, with the two exceptions I have just referred to, the appendages on both sides were completely removed.

ERYTHEMATOUS LUPUS OF THE HAND.

By A. H. Ohmann-Dumesnil, A.M., M.D.,
of St. Louis.

Lupus erythematosus (Cazenave) is an affection of the skin which has proved itself interesting, not only from a clinical point of view, but because there has been so much discussion in regard to its pathogeny and pathology. Its clinical characteristics and appearances have been minutely described and made thoroughly familiar; yet they have not been so carefully elaborated as we might wish. What I intend to convey is this: that while erythematous lupus of the face and head has been quite frequently observed and described in every particular, and every phase of its evolution noted, the invasion of other portions of the skin has either escaped attention or has occurred so seldom that but few cases have been observed and of these but a small number have been accurately described.

That this disease occurs most frequently upon the face is fully proven by the statistics of every dermatologist; and that its occurrence upon the trunk or extremities is comparatively unusual is also the general experience of those who have paid any attention to the subject. It is the universal opinion of all authors that erythematous lupus of the hand is a rare form of the disease, and the rarity is still greater when the process is not found to be present upon any other portion of the body. This being the case, it is very strange that the reports of such cases which have been made, should, in a certain degree, be so meagre in details and I must urge this very incompleteness as an apology for the apparently unsatisfactory manner in which I have been compelled to tabulate the cases which I have succeeded in gathering together.

There is no doubt whatever, in my mind, that these do not represent more than a very small portion of the cases which have occurred, for

two reasons. In the first place, many observers are unable to recognize the disease; and, in the next place, others observed it before it had acquired a distinct place in nosology. Yet, it must be comparatively infrequent when we take into consideration the number of competent dermatologists and the large amount of material which passes through their hands, in connection with the small number of cases of erythematous lupus seen by them and the extremely small number of patients whose hands are affected by this disease. Of course, in the majority of cases, there is not much pain or deformity and scarcely any inconvenience attending the disease, relief being frequently sought for cosmetic purposes. This may act as a possible factor to account for the small number of cases actually observed.

On account of these and other reasons, I have deemed it proper to report a case of erythematous lupus of the hand and arm, which came under my care some time ago, and which possesses some interesting features. This is done in spite of the fact that the case is still under treatment and observation.

CASE.—W. C. C., male, aged fifty-five, was referred to me on June 3, 1886, by Dr. F. Foster, of Memphis, Mo. The history of the case which was given to me, was as follows: The patient, whose occupation is that of a carpenter, is an American and married. His children are all healthy. His own general health has always been good and he has never had any other skin disease. There is no history of syphilis, nor is there any evidence of its ever having existed. The patient has always lived a regular life and his habits have always been temperate.

In June, 1882, he noticed a small "spot" upon the dorsum of the right hand. This remained and slowly increased in size until, in the course of a month, it had attained the dimensions of a silver dime, the color being that of a ripe cherry. The patient cut into this with his pen-knife and, from this time on, it began spreading rapidly. He was treated by a number of physicians who applied caustics, using chiefly chloride of zinc, but with negative results. In fact, he thought that the treatment greatly aggravated the trouble. In March, 1883, he went to Hot Springs, Ark., where he again submitted to a treatment with caustics, but without any benefit.

On July 6, 1883, he was seen by Dr. Foster. The lesion then embraced the entire dorsum of the hand and extended up to the second phalanges of the fingers. Dr. Foster removed a portion with the knife and was much gratified to see the wound heal kindly. After that time, he removed several large portions, the operations being always followed by "healthy granulations." The patient could never be persuaded to take chloroform and have all the diseased portions removed by excision; but, he continued to ply his vocation until his physical condition compelled him to abandon it.

June 3, 1886. Status præsens: The patient is about 5 feet 8½ inches in height, weighs about 160 pounds, and appears physically well developed. His pilous system is well developed and his skin is of normal thickness and elasticity. The color is normal on the covered portions, the face and hands being bronzed through exposure to the sun. The

hair of the head is of a brown color, slightly mixed with gray. Upon no portion of the body, except the parts about to be described, can any affection of the skin be found. The part involved includes the hand and forearm of the right side. Here it may be noted that, in general, it is the dorsum of the hand and the extensor surface of the forearm that are implicated. The patches are rather irregularly distributed on account of the cicatrization which has taken place. Upon careful examination, patches are found distributed about as follows: One on the dorsal surface of the thumb, involving the metacarpal and first phalangeal surfaces, and a smaller one, the second phalangeal surface, up to the nail but not implicating it. A very small patch is found upon the first phalanx of the index finger, another on the first phalanx of the middle finger, one on the first phalanx of the ring finger, and one involving the first and second phalanges of the little finger. An irregularly clover-leaf-shaped patch involves the skin over the metacarpo-phalangeal joints of the middle and ring fingers and extends up on the dorsum of the hand. Two or three patches are located over the carpo-metacarpal joint, on its dorsal aspect, one of the patches (the largest) encroaching upon the ulnar aspect of the wrist. A number of small patches are irregularly distributed over the dorsum of the hand. About two and one-half inches above the wrist-joint a heart-shaped patch exists, and this is surrounded by cicatricial tissue. At the junction of the middle and the upper third of the forearm we find an irregular horseshoe-shaped patch, which is so large that it encroaches upon both the ulnar and radial aspects of the arm. Its convexity is directed upward and, in the space included within its curve, a few small patches are present.

The sizes of the patches vary quite considerably. Some of them are about a fourth of an inch in diameter, and all dimensions can be found between this and four inches by one, which is approximately the dimensions of the largest one. The shapes of the patches are also irregular, although all of them have a tendency to assume convex contours.

The patches have a somewhat dark-red color, inclining to a lighter shade. On the fully developed lesions may be observed dirty, yellowish crusts a line or more in thickness, and consisting, in large part, of inspissated sebum. At some points these crusts are brownish from the admixture of blood, and everywhere are hard and stiff. They are well defined against the skin and feel quite rough to the touch. In addition, they are elevated above the general surface of the skin, and when removed it is noticed that an elevated border surrounds the lesion.

Between and surrounding some of the patches are superficial cicatrices. These are especially pronounced between the highest patch and the wrist-joint. Some are to be seen upon the fingers, and they have the same characteristics as the others. These scars are nearly white in color, having a slight pinkish tinge. They are quite flexible and, to the touch, communicate the sensation of a thinner skin rather than that of scar tissue. Upon close inspection, it is noted that small pits or depressions can be found irregularly distributed in some of the scars, giving that cribriform appearance seen to accompany cicatrices which are due to superficial destructive processes of the skin. External inspection does not reveal the presence of hairs, coil or sebaceous glands.

As regards subjective symptoms in this case, the patient states that he has had no occasion to complain, beyond experiencing a sharp pain at varying intervals. Sensation appears to be very fair in the forearm,

and there is apparently no disturbance of innervation. The patient protects the arm and hand by means of a wet bandage laid over the site of the disease, and this may account, in part, for the immunity from pain. He complains of pain upon flexing the fingers, and says that there is a diminution in the power of the hand. He is not as strong in the right hand and arm as he formerly was.

With this history, the diagnosis of erythematous lupus was made. The treatment ordered was as follows: To apply a paste, composed of concentrated lactic acid, to which sufficient kaolin to form a firm paste had been added, to the patches, the edges of which had been previously oiled. Dr. Foster carried out the treatment.

June 18. The paste was applied and proved to be exquisitely painful, so much so, indeed, that it became necessary to keep the patient under the influence of chloroform for nearly three hours, and it was only twelve hours later that he felt comfortable.

22d. A slough separated and the case is looking well.

August 11. The case is progressing finely. Applications of sapo viridis, to be followed by zinc oxide ointment, were ordered.

20th. Case nearly well. Pyrogallic acid ointment ordered.

January 16, 1887. The patient wrote that the "sores" looked smooth and healthy.

February 3. The "sores" show no disposition to heal.

19th. The condition seems to remain in *statu quo*.

March 10. The condition is about the same, with the exception of a new patch which has shown itself above the elbow.

June 5. The hand has become worse and the patch on the arm is now four inches in diameter. I urged the patient to come to the city, as I could do nothing by correspondence.

September 24. The patient presented himself, and his condition was nearly as bad as when I first saw him. I excised a small lesion on the arm and the wound healed kindly by the first intention. He was ordered to remove the crusts every day by means of a warm bichloride of mercury solution, and then apply a mixture of equal parts of olive oil and campho-phenique to the lesions. Under this treatment he steadily improved for two weeks and left for home.

October 15. The condition again at a standstill; an ichthyol ointment ordered.

December 8. Patient reported no improvement. I urged him again to come to the city.

February 24, 1888. Patient presented himself once more, and his condition was anything but good. He was ordered "cold cream" to the patches, which were quite painful.

March 4. The compound salicylic plaster, as recommended by Dr. Klotz, of New York, was applied. This proved very good in its action, but so painful that the patient positively refused to continue its use.

14th. Creasote was applied to the elevated edges of the patches and campho-phenique to the central portions. This treatment gave good results. The patient left a few days after, but continued the treatment at home, and one month later (April 15th) his physician reported him as doing very well. Since that time I have received no news of the progress of the case, which has, on the whole, been about as unsatisfactory as the majority of cases of lupus erythematosus are when subjected to treatment.

It is a well-known fact that cases of erythematous lupus are, as a rule, essentially chronic and very rebellious to treatment. While single lesions may be caused to disappear, fresh outbreaks are constantly recurring. It is also a matter of observation that, in the majority of cases, the patients disappear before complete results are attained. Moreover, as relapses are so prone to occur, it is a very difficult matter to form any just estimates of the results of treatment. On this account I have refrained from particularizing or dilating on this point, deeming a clinical analysis of cases of more interest.

Neither do I intend to touch upon either the pathogeny or pathology of the disease at present, reserving these two interesting subjects for some future paper, in which I intend to present some of the results of a few researches made in this direction.

Clinical Analysis.—A search through literature, and correspondence held with dermatologists in this country, have resulted in the record of forty-six cases, exclusive of the one just described. Of these, ten are unpublished. Upon looking over this list, I find that the majority have one fault in common, viz., the incompleteness of the record. This is due to a number of causes. One is that some observers directed their attention to but a few points; others did not keep notes of the cases at the time they were seen; and others kept incomplete records or made insufficient reports. I have been informed by some correspondents that they could not supply me with any information on the subject, because they did not keep notes of any cases.

In looking over the table, we find that of the 26 cases wherein sex is specified, 15 were females and 11 males, thus confirming the statistics of erythematous lupus of other portions of the body. Where the sex is not specified (in 21 cases) it is very probable that the disease occurred most often in females. The proportion is approximately two to one, in the experience of all observers. In the above cases, involving the hand, it is nearly one and a half to one, but the record is not sufficiently complete to arrive at a satisfactory conclusion.

The earliest period of life at which the disease occurred is given as 7 years; the latest, as 50. The average age is 26.5. Here we must take into consideration 28 cases in which these details are not reported. The age at which the reporter saw the patient is more fully given, there being but 22 cases in which this item is omitted. In the remaining 25 cases, the youngest was seen at the age of 12; the oldest at 60. The average age when seen is 33.7. Taking the 19 cases in which both the age at which the disease first made its appearance and the age at which the reporter saw it, are given, we find that the shortest time permitted to elapse between the appearance of the disease and its presentation to a competent observer is 2 years; the longest, 21. The average time is 8.42 years. Of course, many of these had been seen and been treated

No.	Age when affected	Age when observed.	Sex.	Part first affected.	Part affected other than hand.	Hand affected.	Fingers affected.	Part of hand or finger affected.	Result of treatment.	Observer, and where published.	Remarks.
1	28	38	M.	.....	Face	Both	Fingers	Dorsum	.....	E. Cazenave: Annales des mal. de la peau et de la syph., i. 297, 1850-51.	
2	...	...	...	Fingers	.....	...	"	.....	.....	E Wilson: Journ of Cutaneous Medicine, Jan. 1869.	
3	...	...	...	"	.....	...	"	.....	.....	"	
4	...	...	...	"	Nose	...	"	.....	.....	"	
5	...	...	...	"	"	...	"	.....	.....	"	
6	...	...	...	"	"	...	"	.....	.....	"	
7	...	...	...	"	Nose and cheek	...	"	.....	.....	"	
8	...	...	...	"	"	...	"	.....	.....	"	
9	...	...	...	"	Ears and cheek	...	"	.....	.....	"	
10	...	...	...	"	Lids and neck	...	"	.....	.....	"	
11	...	...	...	"	Cheek, ears and scalp	...	"	.....	.....	"	
12	...	...	...	"	Ears and nose	...	"	.....	.....	"	
13	...	...	...	"	"	...	"	.....	.....	"	
14	17	20	F	Face	Face	Both	"	Palms and dorsum	.....	I Neumann: Beitrag z. Kentniss der Lup. Eryth. Wiener med. Woch., No. 68, 1869.	
15	...	...	F.	"	"	"	"	Palm	.....	M. Kohn: Arch. für Derm. u. Syph, 1869.	Rhagades.
16	20	33	F	"	"	"	"	.....	.....	M. Kaposi: Arch. für Derm. u. Syph., Prag. 1872.	
17	...	36	F.	"	"	"	"	Sides	.....	"	
18	...	24	F.	"	"	"	"	Extremities	.....	"	
19	..	29	F.	"	"	"	"	Sides	.....	"	
20	...	32	F.	"	"	"	"	Dorsum	.....	"	
21	...	...	...	.....	.....	Hand	"	"	.....	Tilbury Fox: Atlas of Skin Diseases. Phila. 1876, p. 74.	
22	...	...	...	.....	.....	"	.....	"	.....	J. H Stowers: Trans. Brit. Med. Assoc. Arch. Dermat. v. p. 413	
23	...	...	...	.....	.....	"	.....	"	.....	"	
24	...	...	...	.....	.....	"	.....	"	.....	"	
25	18	24	F.	Fingers	Nose	Left	Middle and little	.....	.....	J. Milton: Arch Dermat., ii. p. 131.	One finger amputated.
26	...	...	...	.....	Face	...	Fingers	Dorsum	.....	A. Jamieson: Edinburgh Med. Journ., p. 1006, 1878.	Diminished power of flexion.
27	21	25	F	Face	"	Both	.....	Palms	.....	L. D. Bulkley: Journ. Cut. and Ven. Dis., ii. 3, 1879.	

No.	Age when affected	Age when observed.	Sex.	Part first affected.	Part affected other than hand.	Hand affected.	Fingers affected.	Part of hand or finger affected	Result of treatment.	Observer, and where published.	Remarks.
28	7	14	M	Fore-arms	Face	Both	Fingers	.....	.....	J. Hutchinson: Lectures on Clin. Surg. Part II. 1879, p. 275.	Fingers "pulpless."
29	...	12	M.	Face	"	"	.....	.....	.....	"	
30	42	44	F.	"	"	...	Fingers	.....	.....	"	
31	...	46	M.	"	"	Both	.....	.....	.....	"	
32	14	19	F.	Hand	.....	Left	Fingers	Dorsum	Cured under treatment	J. N. Hyde: Journ Cut. and Ven. Dis., ii., 1884, p. 321.	Thumb nail not attacked.
33	23	38	F.	"	Lip and chin	Right	.....	"	.....	"	Right-handed.
34	14	29	F.	"	.....	Left	Fingers	Palm	Slightly improved under treatment	"	Melanodermic striæ of face.
35	26	38	M.	"	.....	Right	"	Dorsum	.....	"	Used right hand constantly. Rhagades.
36	30	50	M.	Right middle finger	.....	"	Middle	Dorsum of hand finger and lateral aspect of finger	Negative	H. G. Klotz: Journ. Cut. and Genito-Urinary Diseases, Feb. 1888.	Died of consumption; nail not affected.
37	19	40	F.	Hand	Fore-arm	Both	Index and middle of left hand	Dorsum of hand; dorsum and lateral aspect of fings	Negative; tried all means; Paquelin's cautery (punctate) arrested it	O. Rosenthal: Deutsche med. Wochschr. No. 19, 1887.	
38	26	30	F.	Hands	.....	"	R—thumb, index, and finger. L—all but little fing.	"	Cured when presented.	R. W. Taylor. Unpublished.	
39	31	35	M.	Face	Face	Right	"	"	Cured; much relieved in six mos.	"	
40	48	50	M.	Right thumb	.....	Both	R—thumb and index L—thumb	Dorsum and radial aspect of right thumb	Cured in eight mos.	C. Heitzman. Unpublished.	
41	20	22	M.	Left index	Nose	"	Dorsum of index	Dorsum; few spots on palm	Nearly well in one month; relapse in one year.	G. H. Fox. Unpublished.	
42	50	60	M	Left hand	.....	Left	Thumb and little finger	Dorsum	Cured	S. Sherwell. Unpublished.	
43	...	...	...	Hand	.....	Both	.....	.....	.....	James C. White. Unpublished.	No other portions but the hands affected.
44	...	...	...	"	.....	"	.....	.....	.....	"	"
45	...	...	...	"	.....	"	.....	.....	.....	"	"
46	...	...	...	"	.....	"	.....	.....	.....	"	"
47	50	55	M.	Right hand	Right arm and forearm	Right	All	Dorsum	Nearly cured; relapsed; improved	A. H. Ohmann-Dumesnil.	Diminished power of flexion.

by physicians, and one of the cases was cured when seen by the observer who reports it (see table, No. 36). The length of time allowed to elapse, however, is always somewhat considerable and is in some measure an indication of the comparatively small amount of annoyance caused by the disease in its earlier stages.

The part first implicated is a matter of some interest. This fact is reported in 41 cases. In these, the fingers were the portion first affected in 15 cases; the face in 12; the hand in 13; and the forearm in 1. In this last case the arm was continually exposed, but this seems to have played no part in the production of the disease.

Besides the hands or fingers, we find that in a number of cases other portions of the skin were involved. In the 29 cases in which this is noted, the nose and face are mentioned most often. It is only in Nos. 36, 37, and 47, that some portion of the face or head was not also involved in addition. In 12 of these cases the disease began in the face, so that in 16 cases the parts other than the hands were invaded subsequently to the appearance of the disease upon the latter.

In the entire list of 47 cases, specific information as to the hand implicated is given in 33. Of these, both hands suffered in 16 cases; the right only in 5; the left only in 4; "one hand" is mentioned four times; and 4 are unspecified. Or, adding together those specified, we find that in 16 both hands were involved; and in 12 one hand only, or very nearly in equal proportions. 6 males and 10 females had both hands affected; 4 males and 1 female, the right hand only; and 1 male and 3 females, the left hand only. The affection was as severe on the left hand of a right-handed individual as on the right of a right-handed one. The amount of use to which a hand is put seems to exercise little or no influence upon the severity of the involvement.

The seat of the erythematous lupus of the hand is also a matter of some interest. The dorsal aspect of the hand is apparently the site of predilection. In 25 cases in which the location is mentioned, the dorsum was the seat of the disease in 17 cases; in 3 the palm alone was affected; and in 2 both dorsum and palm were implicated. In 3 cases the side of the hand was affected, and in 1 the ends of the fingers.

In 2 cases there were fissures observed in the hands, and in 1 (No. 28) the pulps of the fingers were atrophied, this being probably due to the fact that the ends of the fingers were affected by the disease. In several the power of flexing the hand was markedly diminished.

In regard to the general condition of the patients, it may be stated that, while a number of authors report a depressed general state, others report their patients as being apparently in good health. As this matter is not fully dwelt upon by authors or by those who have reported cases, it is not possible to be conclusive on this point. In my case, the

patient has always been in a good condition physically, and has never complained of any other affection than that on his hand and arm.

I wish to acknowledge valuable assistance from several papers on the subject of this essay, notably Dr. J. N. Hyde's (*Journal of Cutaneous and Venereal Diseases*, 1884), and I also seize this opportunity to extend my heartfelt thanks to all the gentlemen who so kindly and courteously answered my letters of inquiry.

In conclusion, I think that the foregoing analysis justifies me in drawing the following conclusions:

1. Erythematous lupus of the hand is a form of the disease which is comparatively of infrequent occurrence.
2. Like the disease in other localities, it is found more frequently in women than in men.
3. This forms begins most frequently on the hands or fingers.
4. In the majority of cases the face or the head is also implicated.
5. Both hands are not more frequently involved than one hand alone.
6. The disease generally makes its appearance when adult life is reached.
7. It is essentially chronic in nature and rebellious to treatment.
8. The therapeutic results obtained are, in general, not satisfactory.
9. The disease does not seem to impair the general health.

MANIA FOLLOWING OPERATIONS, ILLUSTRATED BY SIX CASES.[1]

By Francis J. Shepherd, M.D.,
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The fact that insanity may follow accidental or surgical injury, other than that involving the brain and its membranes, has long been recognized, and not a few cases are reported in medical literature.[2] Individuals addicted to alcoholic excesses not infrequently, after severe injuries, especially of the lower extremities develop delirium tremens, and, indeed, it is not so very uncommon to see delirium follow severe injuries of the lower extremities in persons who are not habitual drinkers. Only a short time ago I saw two cases of delirium following intracapsular fracture of the femur in old women. The cases, however, which I desire to notice, are those in which insanity is developed after surgical injury.

[1] Read before the Surgical Section of the Canadian Medical Association, Ottawa, 1888.

[2] As for example, A. Schroetter: De Morbis Animi præcipue in combinatione vulnerum, 1804. Also Hauser, 1851; Heyfelder, 1872. J. Festal: Du Delire nerveux traumatique. Davidson: Mania after Amputations, Lancet, 1875. G. Spies: Zur Casiustik der traumatischen Manie, 1869.

In these cases, when anæsthetics are administered and iodoform used, it is often difficult to decide correctly the cause of the mania.

In persons predisposed by heredity to insanity, any shock or disturbance of function may produce an attack of mania, and any disease in which delirium occurs may set up a chronic mental disorder. We see this in the delirium produced by fevers such as typhoid, also pneumonia. Dr. Savage[1] says that "those who come of insane stock are very often unusually liable to infection, and having contracted an acute disease, they are more likely to have early and severe delirium."

Cases of insanity, melancholy, etc., are reported from time to time following operations on the female genital tract. Not a few cases of insanity following ovariotomy[2] are recorded, and in a recent paper by Werth six cases of psychical disturbance are reported in 300 operations on the genital tract.

The mental disturbance lasted from two to six weeks: three cases were cured and three were not improved; one of the latter committed suicide. Two of the cases followed extirpation of the uterus, two castration, and two washing out of the bladder. Ahlfeld reports a case of marked mental disturbance following the introduction of a speculum.[3] In a paper read before the Dublin meeting of the British Medical Association, August, 1887, by Dr. George Savage,[4] of London, a number of cases of insanity are reported following the use of anæsthetics in operations. In some of the cases cited, the insanity is clearly due to the anæsthetic, but in others the connection is not so clear, and traumatism as a cause cannot be altogether excluded. Dr. Savage asks, "How long after an operation may the effect of an anæsthetic be felt?" In certain cases, in which days have elapsed before symptoms develop, it is hard to connect the conditions; but in many of these cases careful examination will reveal that there was depression, drowsiness, or irritability from the first, so that although the maniacal attack had been postponed, the disorder started at the time of the operation. In some cases Dr. Savage has seen death follow from a condition resembling general paralysis of the insane.

In a case of surgical operation followed by insanity, in which an anæsthetic has been used, it is very difficult to say which was the exciting cause, the traumatism or the anæsthetic. It appears to me that traumatism has a much larger share in the production of the mania, for in how many thousands of cases is an anæsthetic given for purposes of exploration and examination without any ill effects resulting. In all the cases but one, reported below, iodoform was used in small amount,

[1] Brit. Med. Journ., December 3, 1887.

[2] See paper by Barwell and discussion thereon at the London Clinical Society, March 13, 1885; Brit. Med. Journ., vol. i., 1885.

[3] Münchener med. Woch., June 5, 1888; quoted in American Journ. of Med. Sciences, July, 1888.

[4] Loc. cit.

and on the surface only. In all the cases mania rapidly followed the operation.

The cases of iodoform insanity that have been reported have usually followed the use of large quantities of the drug for a considerable period of time; hence I think that iodoform as a cause of insanity in these cases may be excluded. Whether the anæsthetic had anything to do with the occurrence of the mania I am not prepared to say. In Case II. it had been used several times before without any ill result. In two of my cases the patients had a distinct family history of insanity. In Case V. the patient was an epileptic, and several of the family were likewise affected. In Case III. no family history could be obtained, but the patient had always been queer and at times very excitable. Two of the cases died maniacal, and one case never recovered complete sanity. In one case pneumonia was a complication, and no doubt hastened death. Some may say that the mania was produced by the pneumonia, but mental disturbance was noticed before the supervention of pneumonia, and was either due to the anæsthetic or the surgical injury, or to both causes combined. Three of the cases followed operation on the abdomen and its walls. Whatever was the cause of the mania in the cases reported below, the fact remains that mania followed operation, and in three cases with disastrous results.

Seeing that such serious results occasionally follow operations performed on individuals who have a strong predisposition to insanity, or who have suffered from previous attacks, the surgeon should consider whether it is advisable to operate on such individuals when the operation is of no great urgency, and is not essential to the prolongation of the patient's life.

Case I.—I. B., merchant, æt. fifty, first seen April 14, 1886, at the request of Dr. A. A. Browne, had been ailing for some time, and for the last ten days had been suffering from acute pain in the right iliac fossa with elevation of temperature. Never had any rigors. The right iliac fossa was excessively tender and could not be satisfactorily examined, so next day patient was put under ether. Obscure fluctuation was felt and pus reached with an aspirating needle. An incision was made some three inches long immediately internal to the right anterior superior iliac spine, and a deep dissection revealed an abscess containing half a pint of stinking pus and some small pieces of fecal matter; the ascending colon was seen at the bottom of the abscess cavity. The cavity was washed out with a weak solution of carbolic acid, a large drain introduced, and a small quantity of iodoform dusted over the wound. Dressings were of washed gauze and sublimated jute. Next day patient was doing well. The wound was dressed, and a few pieces of feces had came through the tube; a small quantity of iodoform was again dusted over the wound.

On the day following, patient had delusions, saw snakes and imagined some one was coming to take him away; he was with difficulty kept in bed, and on one occasion escaped from the nurse and tried to jump out

of the window. Iodoform was stopped, and all that was possible removed from the wound, and boracic acid substituted. Although there were no tremors, both Dr. Browne and myself thought that the case was one of commencing delirium tremens, as the man was an immoderate drinker. In a few days the delirium increased, and, in fact, the patient became quite maniacal, necessitating constant watching by skilled attendants. The delusions still continued; he was very suspicious of some plot to destroy him; he always recognized his friends. During all this time the wound progressed most favorably, and although the patient was weak, and lost considerable flesh and at times refused his food, he went on fairly well. The mania lasted exactly one month until May 15th, when he suddenly recovered his sanity. By this time the wound had completely healed. The patient has been perfectly well in his mind ever since. A few weeks ago, both bones of the left leg were broken by an accident, and fearing a return of his insanity I avoided giving him an anæsthetic whilst putting up the limb Throughout this last illness his mind has remained clear. The patient has a well-marked family history of insanity: his father died in an insane asylum, and he has an insane uncle and cousin; patient himself has always been subject to ungovernable fits of temper.

Case II.—J. H., lawyer, æt. twenty-seven, a strong, healthy-looking man, for years had been troubled with necrosis of the lower end of the left femur, caused by an injury when a boy. At times the thigh became painful and swollen, when relief was afforded by the discharge of pus through an old sinus in the inner side. At times, pieces of bone came away. In the summer of 1885, I placed patient under ether and removed a piece of dead bone. The wound was freely dusted with iodoform. In a couple of weeks he went home perfectly well. He came to me again on December 3, 1886, suffering acute pain in the lower end of thigh and great tenderness on pressure at site of old sinus on the inner side. His temperature was 100°. Pulse 120. On December 7th, assisted by Dr. Roddick, I cut down on the outer side of the femur in search of the cause of the pain; no pus was found, but only thickened periosteum and a sinus leading to rough bone. The patient recovered well from the ether and said that the pain was much relieved. The wound, I should have said, was dusted over with iodoform and dressed with gauze and sublimated jute.

Next day patient was very nervous, excitable and irritable, and could not sleep. This condition continued till December 16th, when the knee-joint became swollen and was evidently full of fluid. His temperature rose to 105°. Pus was now coming freely from the wound. As his condition was unfavorable, he was again placed under ether and the knee-joint aspirated, but only serum was evacuated. An incision was made in the inner side of the thigh at the site of the old sinus; some pus was let out and a through drain was introduced between the two wounds. Soon after coming out of the ether the patient became very nervous, had tremors and delusions. In a day or two, the temperature fell and the knee became quite normal in appearance, but his mental condition became worse. He became morose, would not answer when spoken to, and fought whenever his thigh was dressed. He recognized everybody, but was in great fear, and was continually shrieking at the top of his voice. He shouted single words as "Doctor," etc., for hours together.

By the end of December his mania became furious, he was with difficulty kept in bed and tried to bite any one who came near him. He now failed to recognize his immediate relations. During all this time the wounds in the thigh were doing well, and his temperature was normal. He took nourishment fairly well, but having always been a strict teetotaler he persistently refused stimulants. He became weaker and weaker, and at last, on January 8, 1887, died of exhaustion. No autopsy was allowed.

The patient had been physically very strong, and a good foot-ball player and athlete. His temperament had always been most excitable. His (maternal) grandfather had had frequent attacks of insanity, and committed suicide in one of his paroxysms. The amount of iodoform used was very small, and was discontinued after the second day. In this case, in which the operation was very trifling, the insanity may have been induced by the anæsthetic.

CASE III.—James B., æt. seventy-two, butcher, was admitted into the Montreal General Hospital, July 10, 1888, suffering from a large strangulated inguinal hernia of the right side. The strangulation had lasted three days, and stercoraceous vomiting had set in. Patient had suffered from hernia for a number of years, and previously when it became strangulated had always been able to reduce it himself. The man was placed under ether, and, taxis failing, an incision was made over the swelling; the sac, which contained a quantity of bloody serum, was opened, and the bowel, which was in fairly good condition, reduced. The sac was ligatured and cut off, and the canal closed with a couple of silk sutures. The parts were painted with a solution of iodoform in alcohol and dressed with washed gauze.

Patient recovered well from the operation, and next day passed flatus freely. It was noticed, however, that he was a little queer; he got up that night, wandered about, and helped himself freely to water from the tap; his temperature and pulse were normal and the abdomen was painless and flaccid. On the third day after operation he had a temperature of 103°, and was quite delirious. On examining his chest, the base of the right lung gave evidence of a commencing pneumonia. Next day his temperature was lower, but he had delusions, and could with difficulty be kept in bed. He insisted on tearing the dressings off his wound. His bowels moved freely on the third day, and he never developed any symptoms referable to his abdomen. He had some slight suppuration at the upper end of the wound, which was a large one; this was, no doubt, due to his constantly handling the parts and tearing off any dressings which were applied. When I saw him on the morning of the fourth day, he appeared fairly sensible, and agreed not to disturb the dressings any more; but in less than an hour they were all torn away. His mental condition kept getting worse, and on the tenth day after operation his delirium was distinctly maniacal; he kept continually shouting at the top of his voice and tried to bite anyone who came near him. His temperature was now normal and the pneumonia was resolving. At times the patient would refuse food, and again would drink milk eagerly. Gradually becoming weaker, he died July 29th.

At the post-mortem, the abdomen was found to be perfectly normal, and there was not the slightest trace of peritonitis. The inguinal canal

was closed, showing that the cure of the hernia was a radical one. There was pneumonia at the bases of both lungs. Brain apparently normal. The portion of bowel which had been constricted was yet much discolored, but in good condition.

I could get no history of insanity in this case, as his wife knew nothing of his family, who lived in England. She said her husband was very queer at times and often very irascible; he occasionally indulged to excess in alcoholic liquors.

CASE IV.—Mary M., servant, unmarried, æt. fifty-one, was admitted into the Montreal General Hospital in May, 1885, with scirrhus of the left breast of eight months' duration. The axillary glands of that side were enlarged. She had not been in good health for some time, and on examining her urine, a large quantity of albumen and casts was found. The breast was removed May 18, 1885, and the axillary glands dissected out. She made a good recovery from the operation, the wound healing in ten or twelve days. Soon after the operation she was noticed to be a little queer in the head and had delusions, and these persisted after she left the hospital. She never recovered from the mild form of insanity then induced. Two years later, she died in the hospital of cerebral hemorrhage. The scirrhus did not return. I could get no family history of insanity in this case, as she had no relatives on this side of the Atlantic.

CASE V.—In January, 1886, Dr. George Ross asked me to see a case of abscess, following typhoid fever, in a boy aged twelve. The abscess was deeply seated in the lumbar region. The boy was placed under ether, and a deep dissection made to evacuate the abscess, which seemed to be in connection with the sheath of the psoas muscle. The boy, in a day or two after the operation, became quite demented—in fact, was quite silly. This lasted for several weeks, when he slowly recovered. The abscess did well; healed completely in two weeks. In this case the demented condition may have been induced by the typhoid fever; but still it did not come on until after the operation, which it closely followed. The boy was an epileptic, and several of the family were likewise affected.

CASE VI.—This case I saw in consultation with Dr. Gauthier, of Montreal. The patient was a woman, æt. forty-five, and the mother of several children. She had had a cellulitis of the arm, which had been freely incised. Chloroform had been administered three times. She was somewhat strange after each administration of the anæsthetic; after the last, during which several deep incisions were made, she became quite insane. When I saw her, she was in good general condition—pulse and temperature normal, and arm doing well. She nursed her arm under the firm conviction that it was a baby. Although ordinarily a person of the most retiring disposition, she now continually laughed, sang, and danced, and kept asking us if we thought her crazy. Several of her near relatives had been very peculiar, and there were several drunkards in the family, but, as far as I could learn, no distinct insanity. She completely recovered her sanity some two weeks after I saw her.

In this case it is possible that the anæsthetic had more to do with the mania than the operation.

STRICTURE OF THE LARYNX;

WITH EXTENSIVE CICATRIZATION, FROM ULCERATIVE TUBERCULOSIS.[1]

By J. Solis-Cohen, M.D.,
of Philadelphia.

Mr. X., æt. forty-five, of spare habit, scrofulous complexion, and nervo-sanguine temperament, brought up as a farmer, but for more than twenty years a machinist in charge of one of the most extensive foundries in the United States, applied to me in September, 1887, for treatment of difficulty in breathing, difficulty in swallowing, painful glutition, and weakness of voice.

As received from the patient, his clinical history was briefly as follows: Without any recollection of previous illnesses, during the winter of 1871–2 he acquired a very sore throat, more severe on the left side, which hurt him extremely in swallowing. A swelling developed on the left side of the neck just below the ear to the size of an ordinary peach kernel, and softened into an abscess which was opened, and which remained open for about six weeks. As this swelling had increased in the neck the sore throat had improved, so that it had gotten well before the abscess was opened. The voice had not been in any way affected. In the winter of 1883–4 he had an attack of bronchitis following an acute coryza, but recovered thoroughly. In February, 1886, while perfectly well, exposure to cold brought on acute inflammation of the throat with dysphonia and dysphagia. This subsided under constitutional and topical medication in about six weeks, the voice becoming entirely normal.

One year later, February, 1887, after exposure to cold, a much severer attack of sore throat ensued, the dysphagia being much greater than before. By May the inflammation had subsided very much, and the voice had almost resumed its natural character. In the middle of May the soreness began to increase and the voice failed. This condition, with some improvement in strength of voice, but never complete freedom from huskiness, prevailed until the date of application to me. On close questioning, I learned that the patient had never been able as a boy to take part in games that required running. His wife assured me that, though strong in every other way, he had been a little short of breath on exertion, and had a weak voice ever since she had known him; that in December, 1877, he had had a severe sore throat for two weeks with chokings at each meal, after recovery from which he had no trouble until February, 1886; that he began to breathe with difficulty in May, 1887, and in June began to cough and choke in swallowing liquids. The patient had lost twenty-four pounds in weight within six months,

[1] Read before the American Laryngological Association, 1888, and the larynx and trachea exhibited.

despite a summer sojourn in the Adirondacks which had so improved his general strength that, from having been hardly able to walk on his arrival, he had become able to walk three or four miles at a stretch without fatigue and without dyspnœa.

On examination of the throat, I found a condition that I had not met before. At the root of the uvula, extending half an inch along each side the soft palate, was a pale, bilateral, symmetric cicatrix, broad at the raphé and gradually acuminated toward each extremity, of the same physical appearance as the cicatrices of syphilis. The epiglottis was gone; the cicatrized stump presented the same pale, glistening aspect as the cicatrix in the palate, and it was continuous into similar-looking tissue on either side, which represented thickened pharyngo-epiglottic folds. The top of the larynx looked as though overlaid by a thick, tense, uniform diaphragmatic membrane, which, without evidence of cicatrices at any point, left a small pear-shaped orifice in the centre; the butt in front and the apex in junction posteriorly (Fig. 1). The largest horizontal diameter was about three mm. at the butt, whence it tapered to a point at a distance posteriorly of about six mm. Through this membranous-looking structure the exterior outline of the aryteno-epiglottic folds could just be made out.

The parts were pale. Their appearance was quite similar to the picture of lupus of the larynx figured in the last edition of Lennox Browne's volume (*The Throat and its Diseases*, London, 1887, p. 398, pl. xiv. Fig. 119). There was no history of syphilis, nor had I any reason to suspect infection.

The picture was the picture of lupus; the cachexia, the cachexia of tuberculosis; the diathesis that of scrofulosis.

There was evidence of disorganization going on in much of the left lung and in the upper portion of the right one. The sputa, which were ejected with difficulty accompanied by a sort of sneeze of the glottis, if I may so describe it, were decidedly tuberculous.

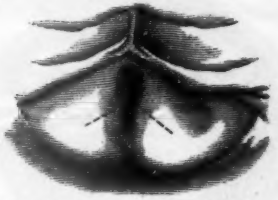
The conclusion I arrived at was that this was a case of congenital syphilis which had become cured with slight defect in the soft palate, loss of the epiglottis, and adhesions between the upper surfaces of the ventricular bands which, with the aryteno-epiglottic folds had become stretched into a sort of diaphragm. The closest scrutiny with the oxyhydrogen light and with magnifying mirrors did not disclose any trace of a cicatrix in this diaphragmatic tissue. Hence there was some suspicion that this formation might have been congenital and that contraction had taken place of late years in consequence of recent inflammations or of irritation set up by the tuberculous process.

The difficulty in swallowing liquids was readily overcome by adopting Wolfenden's suggestion of swallowing in the prone position from a tube in a tumbler. My patient, who was a machinist, explained the

mechanism by a sort of siphonage, making one continuous conduit of the rubber tube, the back of the throat, and the œsophagus, without impingement of the liquids on the superior surface of the larynx, the efforts at swallowing keeping the liquids in line.

As to relief for dyspnœa, the choice wavered between tracheotomy and section of the constricting tissues. It was determined to try the latter first, as tracheotomy could always be resorted to in an emergency. I began by dilating with the Schrœtter's tubes. At first there was difficulty in introducing the smallest, No. 1; but at the end of about three weeks I was able to introduce No. 10, although the orifice closed up a little after its withdrawal. It did not contract, however, beyond the calibre of No. 5, and this passage gave me ample room, under oxyhydrogen illumination, to see that the vocal bands were free to move in efforts at phonation. In the belief that the diaphragm was composed of the tissues normally represented by the aryteno-epiglottic folds and ventricular bands, I had a special pair of scissors made to cut the fold; but on trying them found, to my surprise, that the tissue was so thick that I could not get a purchase. I then resorted to the naked knives presenting in the cardinal directions, which for more than twenty years I have been using to divide strictures of the larynx; and by sawing through fully half an inch of solid tissue, almost cartilaginous to the touch, beginning in the direction represented in the dotted lines in Fig. 1, I succeeded, in the

Fig. 1.



Stricture of the superior orifice of the larynx.

course of several days, in modelling a very fair representation of what I thought the normal arytenoepiglottic folds ought to be. Several pieces were thus sawed out solidly. Some were examined microscopically in Philadelphia, others in Washington by Dr. W. M. Gray, of the United States Army Medical Museum. Dr. Gray wrote me that he cut the largest piece only, not thinking it worth while to examine the little pieces unless specially requested. The specimen contained many bacilli, some of them in large giant cells. Dr. G. de Schweinitz, of Philadelphia, found in the sections he examined a somewhat thickened epithelium, beneath which was a granulation-like tissue, with occasional giant cells and numerous tubercle bacilli.

After the posterior adhesions had been divided and the resection of

the lateral parts had been effected, the picture assumed the ordinary aspect of tuberculosis of the larynx.

There was no disposition to retraction, and the operative wounds in a great measure cicatrized, although the wedges of tissue excised had contained numerous tubercle bacilli. This cicatrization was spontaneous.

The subsequent clinical history was the usual one of tuberculous laryngitis, and the patient died with pulmonary œdema in the latter part of February, 1888.

Examination twenty-five hours after death showed both lungs tuberculous; the apex of the left one being riddled with small cavities, and the base of the right lung being healthy. The larynx showed very great thickening of the aryteno-epiglottic folds and ventricular bands, with detachment of the fibrinous portion of the vocal bands from the muscular portion, the intervening tissue having cicatrized. Both arytenoid cartilages were carious and exposed. The raw surfaces of the cuts made in resection were in great measure cicatrized (Fig. 2).

FIG. 2.

The larynx exposed posteriorly.

The specimen has been preserved for future references in the United States Army Medical Museum, Washington.

REVIEWS.

CLINICAL LECTURES ON IMPORTANT SYMPTOMS. By THOMAS GRAINGER STEWART, M.D. Edinburgh; Professor of the Practice of Physic and of Clinical Medicine in the University of Edinburgh. FASCICULUS II. ON ALBUMINURIA. 8vo. pp. 249. Edinburgh: Bell & Bradfute, 1888.

SOME years have elapsed since the first fasciculus of the author's *Clinical Lectures on Important Subjects* was published. The symptom treated of in that series was "Giddiness." Professor Stewart informs us in the preface that the lectures comprised in the present series have been delivered at various times during the past two years, and that, as we well recall, several of them have appeared in the journals. They embody his present views regarding the chief clinical questions discussed in his book on *Bright's Diseases of the Kidneys*, the second edition of which has been for many years out of print, and to some extent, therefore, fulfil the desire of the profession that he should issue a third edition of that work. But they fulfil it to some extent only, seeing that they approach the subject exclusively from the clinical side. We desire the mature views of the author upon the whole subject of the diseases of the kidneys, their causation, their pathological histology, their natural history, their relationships to other pathological states, both local and general, their treatment and prevention, their termination, and their pathological and clinical classification; and for this reason we may still look forward to the appearance of a third edition of the author's work. Meanwhile, we gratefully accept these lectures. They are eminently practical and instructive. There is a certain advantage in thus tracing a symptom, common to many derangements, *back* to its various sources. It helps to all-around views of a subject. One thinks of the shield in the fable, one side of which was gold, the other silver. He who has passed it adds to his knowledge of it by retracing his steps to look on it again.

They are, to a great extent, based upon original work undertaken to solve mooted questions in the etiology and symptomatology of diseases of the kidneys, and represent an amount of labor not on first consideration apparent to those who have not undertaken similar studies.

A list of the various forms of albumen and allied substances found in the urine and the tests for them, is followed by a critical study of the relative delicacy of the tests for serum-albumen. The author does not employ the word *albumin*, as is now commonly done, to designate serum-albumen.

The results show that the *boiling test*, carefully applied, is an excellent one, revealing the presence of so little as 0.00218 of a grain per ounce, and that *heat*, with the previous addition of a little acetic acid, is still more delicate, showing 0.00131 of a grain per ounce.

The *cold nitric acid* test is of inferior delicacy, not giving a distinct reaction with less than 0.01311 of a grain of albumen per ounce.

Picric acid proves the most delicate test, giving a faint, but perceptible reaction up to 0.00015 per cent., or 0.000655 of a grain per ounce.

We are fully in accord with the author, however, in regard to the relative value of the various tests, namely, that it by no means coincides with their sensitiveness. The more delicate of them are to be used with caution; little importance is to be attached to faint indications obtained by their use, and albuminuria is rarely a serious condition unless it is sufficiently pronounced to be made out by the cold nitric acid test.

We gather from the context that Professor Stewart is in the habit of using the cold nitric acid test and controlling it, when no reaction is obtained, by the more delicate test of picric acid.

For the quantitative analysis of albumen, the author's experience coincides with that of Dr. George Johnson, namely, that *Esbach's method*, as compared with *Sir William Roberts's dilution process* and the *percentage method of Dr. Oliver*, possesses the advantage of greater accuracy, yielding results more closely corresponding to these obtained by the elaborate drying and weighing process, which is not available for ordinary clinical work.

An elaborate series of investigations undertaken to determine the frequency of albuminuria and the circumstances under which it may occur in persons apparently healthy, gave results which the author formulates as follows:

"1. That there is no sufficient proof that albumen is normally discharged from the human kidneys.

"2. That albuminuria is much more common among presumably healthy people than was formerly supposed, being demonstrable by delicate tests in nearly one-third of those examined.

"3. That the existence of albuminuria is not of itself a sufficient ground for the rejection of a proposal for life insurance.

"4. That traces of albumen are not infrequently present in the urine passed during the first days of life.

"5. That, excepting as shown above, the frequency of albuminuria increases as life advances; being rare in children and young adults, and common in men at or above sixty years of age.

"6. That it is more common among those whose occupations involve arduous bodily exercise than among those who have easy work.

"7. That albuminuria frequently follows the taking of food, especially of breakfast.

"8. That moderate muscular effort rather diminishes than increases albuminuria, except in rare cases.

"9. That violent or prolonged exertion often induces albuminuria.

"10. That cold bathing produces or increases it in some individuals.

"11. That the discharge of peptones from the kidneys is exceedingly rare in the presumably healthy."

A similar series, undertaken to determine the incidence of albuminuria among the sick, resulted in the conclusions embodied in the following statements:

"1. That as in health, so in disease, albuminuria is much more common than is generally supposed.

"2. That it is more common among patients of adult age than among children.

"3. That cases of Bright's disease do not account for one-half of the cases of albuminuria met with in practice.

"4. That they account for more than any other individual cause.

"5. That next to them rank cases induced by cardiac and other maladies affecting the circulation, and those due to the accidental admixture of blood, pus, or other albuminous fluid with the urine.

"6. That so far as this series of observations shows, the various forms of functional albuminuria are rare.

"7. That in waxy and cirrhotic diseases of the kidneys, the quantity of albumen is at first so slight as to be shown only by picric acid.

"8. That usually in these when advanced and in renal inflammation, the albumen is more abundant than in other varieties of albuminuria.

"9. That in the digestive and nervous cases, and those due to high temperature, the quantity is often so small as only to be discovered by picric acid."

The author sums up a most discriminating review of the theories in regard to the pathology of albuminuria, in these words:

"I would have you believe that albuminuria is very often due to changes of an inflammatory character in the epithelium of the tubes and in the stroma of the organ, and that in a very large proportion of the cases in which it occurs in practice it is dependent upon this cause; that increased blood-pressure is a factor of some importance; that increased permeability of the filtering apparatus induces it in many instances; and that there may be some conditions of the blood which account for it or favor its occurrence."

Then follow lectures upon albuminuria from inflammation of the kidney, from cirrhosis of the kidney, from waxy or amyloid degeneration; all abundantly illustrated by cases drawn from the author's rich experience in this field of clinical work.

Equally interesting and important are his views concerning the albuminuria from fever and other causes; but it is to the lecture upon those albuminurias which have been designated variously by different writers as functional, intermittent, dietetic, cyclical albuminuria, and the albuminuria of adolescence, that those familiar with the subject will turn with especial interest. Here is a field that our author has tilled with a diligence his own.

Four categories may be distinguished with advantage. There are, first, paroxsymal albuminuria; second, dietetic albuminuria; third, albuminuria from muscular exertion; and, fourth, simple persistent albuminuria. These forms may run into one another and mutually overlap; they may succeed each other in the same individual from time to time; they may and they frequently do occur in individuals who otherwise have excellent health, and they may vanish altogether, or may recur from time to time for years without entailing serious consequences. But the prognosis is not in all cases so hopeful. The author admits that the culmination of such cases in organic disease of the kidneys does occur, but thinks it must be rare. Dr. George Johnson and Dr. Clement Dukes believe that a proportion of the cases of paroxysmal albuminuria are either Bright's disease in its incipient stages, or ultimately run into that condition.

In view of this possibility, paroxysmal albuminuria must be regarded as a significant, often as a serious symptom.

Moxon's paper in *Guy's Hospital Reports* appeared in 1878; the greater part, in fact all the exact investigations into this group of albuminurias have been made since this date; Pavy's article on cyclic albuminuria was published in 1885. The subsequent history of many of the cases is too brief as yet to warrant positive assertions in regard to

the whole clinical course of these forms. When the time for this shall have elapsed, the group of "albuminurias not dangerous to life" will probably appear smaller than at present.

Accidental albuminuria is next briefly discussed. Then follow lectures upon the differential diagnosis and the prognosis in albuminuria, on diet, and on the effects of medicines. The author's observations on the subject of prognosis are very practical and suggestive; his views on the effects of various diets are based upon exact investigations, and, therefore, possess a positive value as compared with the vague statements current in text-books; the same may be said of his conclusions in regard to the power of medicines in controlling the output of albumen by diseased kidneys—

"I have satisfied myself, by a long series of careful observations, that we have no right to credit any drug with the power of directly diminishing the discharge of albumen."

This is, at present, the opinion of observant physicians at large. Yet it must not be looked upon as a pessimistic view of the subject. To abandon the effort to diminish *directly* the loss of albumen by drugs, an effort shown over and over again to be useless by the ablest therapeutists, and devote their energies to methods of treatment abundantly proved to be of general benefit to the patient and so *indirectly* favorable to the course of the renal affection is, in fact, a wholesome gain in the management of these diseases.

In regard to climate, the author writes:

"In the mixed forms of organic renal disease, the treatment must be determined according to the preponderating element. In all of them, whether combined or not, the choice of climate is of much importance. When it is possible, these patients should avoid cold and damp districts. It is well for them to winter in the south of Europe, in Algiers, or in Egypt; and practitioners in high altitudes, such as Davos, find that renal cases should not try treatment there. The only exception to this rule is afforded by purely waxy cases which have resulted from chronic phthisis, and in which the advantage to be derived, in respect of the pulmonary disease, tells favorably upon the kidney also."

The arrangement of the data and results of investigations in the form of tables constitutes a valuable feature of the book, and saves space and needless repetition.

In conclusion, we regard these lectures in their present form as an important contribution to the literature of clinical medicine in the broadest sense. J. C. W.

ESSAYS ON HYSTERIA, BRAIN TUMOR, AND SOME OTHER CASES OF NERVOUS DISEASE. By MARY PUTNAM JACOBI. 8vo. pp. 208. New York: G. P. Putnam's Sons, 1888.

IN this little volume, Dr. Jacobi has brought together seven interesting essays, elsewhere published, on various forms of nervous disease, the two subjects mentioned in the title occupying two-thirds of the book. The work is noteworthy from its careful preparation, diligent search of literature, familiarity with the subjects treated, considerable practical

experience in nervous diseases combined with powers of keen observation, and is made attractive by its clear style.

The writer believes that in hysteria there is a congenital or acquired deficiency in the power of the nerve elements to effect the storage of force in nerve tissues, resulting in morbid limitations of function. And that further the normal balance of action between sensory and motor nerve elements is interfered with, producing as a result increased inhibition on one side and hyper-sensitiveness on the other. The seat of this disturbance is the cortex, and vaso-motor instability accompanies and possibly causes it. In this view the influence of Meynert upon the author's line of thought is evident; the hypothesis of a correlation between cortical and subcortical action and blood supply being accepted. Many interesting facts are gathered in apparent support of this view of hysteria—which certainly is a fairly satisfactory one.

As a basis for the essay on brain tumors the writer has brought together over five hundred cases from foreign literature, and, therefore, the tables and percentages are very valuable. Such facts as the absence of headache in one-half of the cases of tumors of the cortex, the infrequency of vertigo and vomiting in tumors of the frontal lobes (18 per cent.), the occurrence of choked disk in only 22 per cent. of 362 cases; the greater frequency of this symptom in tumors affecting the base of the brain than in other locations, the greater frequency of mental symptoms in tumors of the centrum ovale (60 per cent.) than in those of the cortex alone (49 per cent.) or frontal lobes alone, are very important aids to diagnosis. The discussion of focal symptoms is admirable, the section on paralysis and spasm being very clear. Differential diagnosis is not fully discussed, the possibility of nephritis or hysteria being mistaken for tumor not being mentioned. The chief criticism which may be made is that too much stress is laid upon the statistical consideration of single symptoms and too little importance attached to their combination in individual cases.

The remaining essays on the loss of nouns in aphasia; on rotary spasm; on the prophylaxis of insanity; on the antagonism between remedies and diseases, and on hysterical locomotor ataxia will interest the neurologist. M. A. S.

THE MILROY LECTURES ON EPIDEMIC INFLUENCES. ON THE EPIDEMIOLOGICAL ASPECTS OF YELLOW FEVER. ON THE EPIDEMIOLOGICAL ASPECTS OF CHOLERA. By ROBERT LAWSON, LL.D., Inspector-General of Hospitals; Late President Epidemiological Society; Fellow Statistical Society. 8vo. pp. 95. London: J. & A. Churchill, 1888.

THIS volume contains the first of a series of lectures to be delivered under the bequest of Dr. Gavin Milroy, who left a sufficient sum to the Royal College of Physicians of London to endow an annual course of lectures on state medicine and public hygiene.

The selection of Dr. Lawson to inaugurate the course of lectures is a fitting compliment to an experienced observer in the field of epidemiology, and most appropriate, as he was well acquainted with the views of Dr. Milroy, with whom he had been very intimate for many years.

The choice of epidemic influences as the theme for the opening course "was made under the impression that it would have met with his approval, and that it really constitutes the first step in the investigation he desired."

It has long been recognized that there exist certain factors intimately concerned in the diffusion and intensification of disease, from time to time, which are not referable to individuals or localities, and which factors have often been vaguely referred to by the conventional terms of "epidemic constitution," "epidemic influence," and "pandemic influence." Of the nature and mode of operation of these factors, little is definitely known. But we must recognize their existence and endeavor to become acquainted with the conditions under which they operate. It is for this object that Dr. Lawson has undertaken the task of collating facts, made available by long experience and close investigation, which he conceives to have an important bearing upon our knowledge of the spread of epidemics.

A study of these facts shows that the epidemic factors embrace large portions of the earth's surface at the same time, and that their course from year to year is somewhat definitely defined. With regard to febrile epidemics, which are discussed in the first chapter, he holds that when developed at various points, from time to time, they passed uniformly to the northward until they finally disappeared. They recur periodically every second year, or at some multiple of two years, and like a series of waves pass over a more or less extensive portion of the earth's surface. These waves he has named pandemic waves, but as to their nature nothing is known at present. As their position from year to year seems defined by lines of equal magnetic dip, he infers that they may be dependent in some way on that force. In order to illustrate this idea he has constructed a map on which the surface of the globe is divided into zones, marked out by iso-clinals, a plan which affords to epidemiologists a means of arranging the complicated mass of details at their disposal.

In pursuing the subject of epidemic influences, Dr. Lawson has collected in the second chapter a large amount of authenticated data relating to epidemics of smallpox, yellow fever, and the plague, which have prevailed from time to time in various portions of the globe. These data, besides furnishing an outline of the histories of notable outbreaks of disease, enable the student of epidemiology to investigate their development, the mode of their extension, and their limits as to time and space, with the view of determining, if possible, some general law under which such manifestations arise.

From the details given it would appear that smallpox, which some believe is independent of all extraneous influences save the presence of a virus and the receptivity of its subjects, is, like fevers, under "the influence of a pandemic factor which determines its development as an epidemic in some places in the first instance, and its subsequent extension to the northward in successive years." These pandemic waves appear every second year for the most part, or at some multiple of two years, though by the following of one wave upon another there is sometimes the appearance of an epidemic of three or four consecutive years. As before remarked, nothing is known of the true nature of this factor nor of its course from south to north, and of its observing a two yearly period.

Dr. Lawson has collected facts to show that under the influence of the same pandemic wave different forms of fever arise in different localities, from which he infers that there exists the operating force of additional factors. Thus, for example, in places where remittent or continued fever are the common fevers, yellow fever makes its appearance at intervals of a considerable number of years, when there existed no trace of it, indicating that there is a special factor leading to the development of this disease in a locality where the circumstances are suitable. These latter embrace states of the weather, conditions of the soil, especially that of moisture, and the presence of the particular miasm which engenders the disease.

The study of the various outbreaks of the plague shows that epidemics of this disease, like those of other fevers, are subject to a force which determines their wave-like mode of progression in the same direction, the outbreaks occurring, for the most part, in the first year of a pandemic wave, with recrudescence the following year.

Facts seem to indicate that the appearance of the benign plague is due to a separate factor concurring with the pandemic wave. Whether this form of the disease presages the appearance of the plague in its more intense form and this is its usual course, or whether the severe form is merely an intensification of the benign form, due to circumstances temporarily existing, the factor remaining the same, are questions which present investigation fails to determine.

In tracing the course of epidemics chronologically over extensive portions of the earth's surface and noting their rise, mode of progression, and decadence, Dr. Lawson observed that their movement was due to a factor which appeared to be of very general operation, and most likely connected with some of the natural forces. Careful investigation showed that this movement was approximately defined by lines of equal magnetic dip, and he, therefore, inferred that it may be dependent upon that force. Whether the theory here presented be accepted or not, Dr. Lawson must have the credit of having brought together a large number of facts showing the concurrence of phenomena indicative of the uniform action of some natural force or coöperation of forces, which may lead to further progress in the study of this abstruse subject.

The third lecture on the epidemiological aspects of yellow fever will be read with interest at the present time, in view of the prominence given to the subject by the recent outbreak of the disease in Florida. After having described yellow fever, the author proceeds to a consideration of its cause. The moot question is whether yellow fever prevailing in a locality more or less circumscribed arises from the operation of causes originating in the locality at the time, or whether the disease must have been brought by one or more persons from a locality where it was prevailing, and by them communicated to other persons; in other words, Is yellow fever a contagious disease, or is it of miasmatic origin, depending on causes existing in the place in which it appears, and devoid of contagion? A close analysis of a large number of notable outbreaks of the disease, especially on ships (where the opportunity for studying the facts is most favorable), has led Dr. Lawson to adopt the theory of the local or miasmatic origin of yellow fever; for, as he remarks, to accept the view of its contagiousness involves the exclusion of local causes, which the bulk of evidence used to support this theory does not permit of.

According to Dr. Lawson, cases of yellow fever imported to a healthy locality are incapable of communicating the disease, but a vessel may have the active source of yellow fever produced in her and carry it to a distance. A ship may be looked upon as a locality, like a circumscribed space on shore, and may acquire the conditions for producing yellow fever without communication with a previous case. The vessel being movable, may communicate her febrific powers to a great distance, but it cannot infect a healthy locality unless the local circumstances are favorable. Persons coming in contact with the vessel, or within range of the emanations from her, may contract the disease, but the disease will not affect persons on shore who have not thus exposed themselves. Another fact of significance is that the disease does not spread on shipboard from persons who have contracted it in an infected locality, when the vessel is free from the conditions suitable for generating the active cause of the disease.

A study of the histories of epidemics of yellow fever at Bermuda, would seem to prove that these visitations occurred without any previous introduction of persons suffering from the disease. The outbreaks on the "Susquehanna" and "Orion" in the West Indies, in 1857, also furnish evidence to sustain the same conclusion. It is, therefore, held that importation is not a necessary factor in the conditions required for the development of yellow fever.

As to the cause, it is believed to be particulate, a living miasm, developed under certain climatic and terrestrial conditions and capable of being diffused by the air. The potential factor can be air-borne, even over extensive areas, but until it meets with a suitable soil for its further development, such as the hold of a ship or a locality favorable to its production, it is incapable of giving rise to the disease.

If the above views be accepted, it follows that land quarantine against persons from a locality where yellow fever is prevailing is not only useless, but an unwarranted interference with personal liberty; and the indiscriminate and prolonged quarantine of vessels from fever ports, by ignoring the fact that vessels may have cases of yellow fever on board without being infected, is a restriction based on a want of knowledge, which imposes a needless obstruction to commerce without being of any advantage to the public health. It must be remembered that Dr. Lawson voices the English views on this subject, which are opposed, in the main, to quarantine, but which favor, in its stead, a system of "complete sanitation."

That yellow fever is not communicated directly from person to person, that the seeds of the disease are not reproduced in the human organism and migrate from it to other persons, is generally accepted. As a ship may be looked upon as a locality which is capable of acquiring the conditions necessary for producing the disease, it is possible for it to carry the infectious material to distant ports where, under favorable terrestrial and climatic influences, it may be reproduced and give rise to an epidemic.

The fourth lecture is devoted to a brief consideration of the "epidemiological aspects of cholera." Various opinions regarding the causation of cholera are presented, and the distinction between cholera nostras and malignant or Asiatic cholera fully described. The occurrence of cholera in any locality, if the persons attacked have not been away from the locality, indicates that the cause of the disease is in operation there;

but, according to Dr. Lawson, "before the appearance of the disease in the locality can be attributed to communication from a previous case which had arisen elsewhere, it is necessary to exclude the influence of local causes." He further remarks, that "there are now on record a good many instances of even extensive epidemics of cholera, which broke out at points far removed from any place where the disease was already in progress, and without any trace that could be detected of importation by man or fomites." The outbreaks in England in 1865 and in America in 1873 are given as examples of such epidemics. "Epidemic influence coinciding with local conditions" is thought to explain these outbreaks. An eruption of cholera in a locality subsequent to the importation to it of persons suffering from the disease does not, in his opinion, warrant the assumption that it has been communicated by such persons, unless the local cause be excluded, which, in most cases, the evidence does not permit of being done. Dr. Lawson believes that the manifestation of cholera in localities far removed from where the disease prevails without the intervening population being affected by it, as in the epidemics in Syria in 1875, or upon ships in mid-ocean, as in the cases of the "New York" and the "Swanton" in 1848, may be ascribed to the transport of the exciting cause by currents of air at some elevation in the atmosphere.

The opinions of authors are cited who believe that the disease is diffused from endemic areas by the influence of the winds; and those of others who hold that it frequently progresses against the wind and who, therefore, believe that the extension of epidemics is due to a considerable extent to communication from man to man.

A relation is supposed to exist between cholera nostras and malignant cholera, inasmuch as a study of the records of these diseases in different countries shows that the former disease increases in frequency and fatality in advance of an epidemic of the malignant form and moderates as the epidemic passes on; and this characteristic is of sufficiently frequent occurrence to be made use of in predicting an outbreak of malignant cholera.

In reference to cholera on board ship, it is remarked that a ship lying in an epidemic port may be regarded as a part of that locality which may become a focus of cholera, but, unlike a place on shore, can carry the active source of the disease to a great distance. It is possible for cholera to develop in persons on board a healthy ship who have been exposed to its cause on land or at sea, yet when the vessel is removed from the source of the disease by a change of locality, fresh cases of sickness usually cease after a few days. In the one case there exists the morbific agency together with conditions favorable to its further development, in the other these conditions are absent.

Without disparaging the views of Dr. Lawson on a subject concerning which there is room for a difference of opinion, it may be remarked that the general belief is that cholera is due to a germ, which being received into the alimentary canal gives rise to the manifestations of the disease. While the germ multiplies in the bowels and is principally contained in the alvine excretions—which under suitable conditions may spread the disease—it is chiefly in fluids extraneous to the body that it develops, and hence it is that drinking water and ground-water play an important *rôle* in the distribution of the disease. The germ may also be diffused by the air, by clothing, bedding, and by attaching itself

to solid substances. Great humidity of the soil and an accumulation of ground-water in its superficial layers are believed to be important breeding factors of the cholera germ. The conditions for the development and diffusion of cholera are a favorable medium for the multiplication of the germ, sufficient contact with the human organism, and personal susceptibility. Climatic conditions doubtless have a modifying influence on the spread of epidemics. The idea that cholera epidemics pursue a definite course from east to west has been for the most part abandoned, and it is now the current belief that the disease is spread by human agency, by the lines of traffic, through cases attacked, whose effects, emanations, stools, carry the morbific agent and transport the disease, particularly when the conditions of the ground-water, drinking-water, and their contact with human beings favor the development and action of the germs.

The theory that cholera is autocthonous, and may arise under epidemic influence independently of a germ, cannot be sustained by the evidence at hand. Very little importance need be attached to the theory that cholera is spread to great distances under certain conditions of the atmosphere and with the winds.

Dr. Lawson's book is well worthy of perusal. It contains an imposing collection of facts which have an important bearing on the spread of epidemics, with such generalizations as the evidence at hand have permitted him to make.

His views upon the epidemiological aspects of yellow fever and cholera, especially the latter, should be read in connection with the works of recent investigators, whose opinions in some important particulars are at variance with those which he advocates. W. H. F.

THE ELECTRIC ILLUMINATION OF THE BLADDER AS A MEANS OF DIAGNOSIS OF OBSCURE VESICO-URETHRAL DISEASES. By E. HURRY FENWICK, F.R.C.S., Surgeon (Out-patient) to St. Peter's Hospital for Stone and other Urinary Diseases; Assistant Surgeon to the London Hospital; Examiner in Elementary Physiology in the Conjoint Board in England of the Royal Colleges of Physicians and Surgeons; Assistant to the Lecturer on Physiology at the London Hospital Medical College. With thirty illustrations. 8vo. pp. 176. London: J. & A. Churchill, 1888.

THE appearance of this excellent and praiseworthy monograph is very opportune. Heretofore, there has been no demand or want for such a work as this, which is destined to create that want, simply because the general profession, or even specialists, have scarcely yet had time to become aware of the marvellous capabilities and practical advantages of the beautiful cystoscopes and urethroscopes which have recently been brought to such great perfection by Nitze, of Berlin, and Leiter, of Vienna. We had the pleasure of witnessing the accurate workings of these two instruments, shortly after their introduction at Berlin, a year since, and it is a matter of great regret that the use of such valuable adjuncts to diagnostic research are not yet in general use.

The work is cleverly written in a clear, attractive style, and the

author's enthusiasm is kept rigorously in check by the confines of fact, and he has had a very large experience in the use of these instruments and with disorders of the vesico-urinary system. It will undoubtedly add to the reputation of the author and demonstrate to the profession that they have now within their reach one of the most valuable additions to our armamentarium of instruments for the purposes of diagnosis and direction of accurate treatment that have been introduced since the ophthalmoscope and laryngoscope.

Bearing in mind the acrimonious dispute between Nitze and his instrument maker, Leiter, Mr. Fenwick has been careful not to enter into the merits of that dispute further than to quote from the actual literature of the subject and to avoid all invidious distinctions, save that he considers the ideas of these two men as so closely interwoven in the development of the perfected instruments, that the name of either variety should be "Nitze-Leiter;" placing Nitze first, as it was he who first conceived the idea of illuminating the bladder; whilst to Leiter certainly belongs very great credit for its ingenious working out.

Chapters I., II., III. are devoted to an exceedingly interesting history of the evolution of endoscopy, from the first introduction of the method of visual exploration of the cavities of the human body by Nitze in 1879, through the period of the incandescent platinum loop and cooling apparatus, to the beautiful Nitze-Leiter electric-light cystoscope of 1887. He regards the far-famed but discarded cystoscope of 1879 as having the same relation to that of 1887, as has the "Puffing Billy" of Stephenson to a modern locomotive, yet he does not believe that the instrument is even now perfect, but that its working *has* come to such a practical point as to make it an indispensable factor in the diagnosis of diseases of the urinary tract.

The following twenty-five pages clearly and minutely describe the method of using the cystoscope, give several series of rules for the same purpose, enumerate the various physical and other requirements for successful exploration of the bladder, and end with a beautiful description of the picture which can so easily be had of the normal bladder through the electric cystoscope. Then succeed fifty pages of equally readable and instructive matter describing the appearances of the bladder pathologically changed by inflammation, tumors or when harboring foreign bodies; and scattered through the text are the histories and cystoscopic pictures of many cases in which marvellously accurate diagnoses have been made by means of the cystoscope: most of them having been positively and exactly confirmed by subsequent operative relief. In one of these cases, a pin was seen sticking in the bladder wall. The cystoscope was withdrawn, and the foreign body cleverly caught and removed by a lithotrite. In another, an encysted calculus, which had escaped observation during lithotomy, was most easily discovered by the visual examination afforded by the electric apparatus, and in yet another case, the true nature of an obstinate cystitis was by its means discovered to be due to an ovariotomy suture coming partly through the bladder, and the patient was quickly relieved of her distress.

But most especially perhaps has the cystoscope been found useful in the case of bladder tumors and morbid conditions of its wall, and the chapter which describes the appearances of disease of this class will be found to be one of the most interesting and important in the book. The early diagnosis of malignant trouble has been so positively made out

by the author as to lead him to desist from any cutting operation for purposes of either further diagnosis or relief. It is truly astonishing to find that so great accuracy has been attained during the brief time which has elapsed since the introduction of this instrument, and it would be a rash man who would at this time attempt to prophesy its limitations. The author concludes the first section of his book with the statement that cystoscopy "will become an important atom in the molecule of the diagnosis and treatment of obscure vesical disease, for it procures for us a visual examination of the bladder without a cutting operation. It will, therefore, rank immediately before, and in some cases supersede the operation of boutonnière, or Sir H. Thompson's digital exploration of the bladder."

The second division of the volume relates to a description of the Nitze-Leiter *urethroscope*, an account of the author's experience with it, its methods of use, capabilities, and the physiological and pathological appearances of the urethra, which, by its employment, are brought to sight. This instrument is also a very valuable perfect and simply working one, but, of course, its utility will always be superseded by that of the cystoscope.

Two appendices and a bibliography of recent literature occupy the balance of the book, and bring to an end one of the most useful and excellent monographs which have recently made their appearance. In the first appendix, very appropriately is given the history of the incandescent electric lights of Edison and Swan, and in the second are recorded an additional series of illustrative cases which have been subjected to cystoscopic examination and diagnosis. T. S. K. M.

PROGRESS

OF

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

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ASSISTANT PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN HARVARD UNIVERSITY.

Action of Erythrophloëin on the Heart.

This drug has been given by Hermann in various forms of heart disease, doses of ten drops hourly of cherry-laurel water containing a seventy-fifth of a grain of erythrophloëin to the drachm. (*Centralblatt für die gesammte Therapie*, October, 1888.)

After one hundred and fifty drops a day of this solution the pulse fell from 100 to 84, and by fifty drops given between noon and five o'clock the pulse was lowered from 100 to 68. The effect, however, does not seem to be constant nor enduring.

It had a marked diuretic effect in a case of mitral insufficiency and in a case of fatty heart, but in some cases no special diuresis followed its use. It caused also enlargement of the pupils in one case, and of one pupil only in another; in some other cases it brought on great excitement.

To compare it with strophanthus, the latter was given in cases in which the erythrophloëin had been without effect on the rhythm or rapidity of the pulse. The result with strophanthus was in marked contrast to that of the erythrophloëin, as the heart was made to beat more regularly and slowly, and the diuresis was prompt and considerable.

This recent drug in its action on the heart is neither constant nor very great; it is possible, however, that it may find an application in some cases as a substitute for digitalis or strophanthus.

The Use of Antifebrin in Nervous Diseases.

In the female wards of the insane asylum where Dr. Jacob Fischer acts as assistant surgeon, antifebrin was used as a nervine for headaches, neuralgias, in difficulties of menstruation, and also for epilepsy, and as a hypnotic.

Dr. Fischer observed the most satisfactory results in headache and, especi-

ally, in neuralgia, and the result was insufficient only in those cases in which the headache was dependent upon a pathological change in the brain or meninges.

The patients took the tasteless and odorless powder gladly after they realized that it gave them great relief. Doses of seven to twenty-two grains were employed, with no harmful result. Relief was attained in one-quarter to one-half hour. The patients who, shortly before, were going about in despair with the pain in the head, felt entirely relieved; their subjective condition was good, better than after antipyrin, which generally causes a slight depression.

Fischer believed that the beneficial effect of the antifebrin in headache was due to diminished blood-pressure, as Cahn, Hepp, and Hare found, since the blood-pressure called forth by the hyperæmia of the brain generally causes headache.

Fischer also made experiments with antifebrin in epilepsy. The accounts of other authors in this respect are very contradictory.

Fischer experimented on fifteen patients in his ward, but with only ten could he carry the test to conclusion. He arranged the experiments in such a way that in the month of February the patient took no medicine at all, in the month of March sixty to seventy-five grains of bromide of potassium were administered, and in the month of April fifteen grains of antifebrin per day, in two doses of seven and a half grains each, morning and evening were given. It was shown that the antifebrin did not affect the epileptic attacks, either as regards their number or intensity. The bromide of potassium is also unreliable in this disease. Although the attacks are fewer in number and of less intensity, still they do occur; on the whole, however, antifebrin is the best means under these circumstances.

Fischer, furthermore, tested antifebrin as a hypnotic, and concludes that it is a good one in certain cases, but in the greater number of cases it is not always reliable. Among twenty patients, it acted promptly on only four. In eight cases it worked only after the first administration; within the next few days even large doses were without effect. In another eight cases, principally of paralysis, it was absolutely ineffectual.

Diuretic Action of the Salts of Mercury.

In the older medical literature calomel is recommended as a diuretic in dropsy; in recent text-books this action of the drug has not been clearly set forth. The study of the diuretic action of the salts of mercury has of late years been the subject of careful investigation, and among other accounts there have recently appeared, in the September number of the *Deutsches Archiv für klinische Medizin*, two noteworthy articles; one on this subject by Dr. Wladyslaw Biganski, of Poland, the other by Dr. R. Stintzing, who made clinical observations on the diuretic and hydragogue action of calomel in the clinique of v. Ziemssen.

Both of these authors used calomel more than the other preparations of mercury, though they show that the other compounds of this metal are capable of exciting the same action. The best field for the successful administration of mercury as a diuretic is in cardiac dropsy, resulting either from

failure of the valves or from primary disease of the heart muscle, except, of course, when the cardiac insufficiency is very great, when all drugs would be less serviceable. It is necessary that the kidneys should be in good condition.

The dropsy resulting from other causes is less apt to be relieved by calomel; according to Dr. Stintzing this is true when it is the result of congestion of the portal system, and especially so in chronic parenchymatous nephritis, though when disease of the heart and chronic nephritis occur together calomel should be chosen if the nephritis is the less prominent. Dr. Biganski considers that changes in the kidneys limit or wholly hinder the diuretic action of mercurial preparations.

Besides acting as a prompt hydragogue, calomel has also a good effect upon the patient's general condition.

In exudative processes, such as pleuritis and pericarditis, it exercises no diuretic effect or an insufficient one.

The best rule for its administration is that given by Jendrássik, three grains, three times a day for at least three days, in special cases longer, up to twelve days.

The dose of the preparation is of importance: as small doses have no diuretic action, either medium or large doses are required. The diuresis begins, according to Dr. Stintzing, on the second to the fourth day after the administration, seldom on the first or fifth. The polyuria lasts in very successful cases at least three days, generally four or five, seldom up to twelve. The largest amount of urine obtained in a day was about sixteen and a half pints, though two to five pints is the usual amount.

It is, of course, necessary to resume this treatment if the dropsy does not disappear or if it returns.

Digitalis and other diuretics have less effect on the amount of urine than calomel, though the latter cannot replace digitalis in cardiac diseases; a combination of both these drugs should prove most serviceable in many cases.

The use of calomel in this way is not free from the effects which are apt to follow its administration in other diseases. The accompanying symptoms of salivation, stomatitis, diarrhœa, and colic may be controlled or mitigated by proper prophylaxis.

If the secretion of the urine is not affected by the calomel, signs of mercurialization invariably appear and calomel can only do harm.

Care must be taken to keep the mouth perfectly clean, and suitable gargles should be used. To correct the diarrhœa, one-sixth of a grain opii puri with each three grains of calomel is generally sufficient. In case the stomatitis is marked or the diarrhœa persistent, the administration of the mercury should be suspended immediately.

Good results may, however, be obtained when the quantity of fluid discharged from the bowels approaches that eliminated through the kidneys; if, however, the extra renal excretion is greater than the renal, the good general effect does not occur.

The diuretic action of mercurial compounds depends somewhat upon the preparation and the method of its application, according to Dr. Biganski, being most marked after subcutaneous injection, less after internal administration, and least of all after inunction.

In regard to the theory of this action of the salts of mercury, Dr. Stintzing

believes that they have no direct influence on the heart and bloodvessels, as he never observed a gain in the pulse as regards volume, tension, or frequency, though often, in consequence of the diminished resistance, the circulation was improved.

The most reasonable hypotheses are those of Jendrássik, who suggests that the calomel causes absorption of the dropsical fluid by the blood, and of Fürbringer, who thinks that it is due to an irritation of the renal epithelium by the mercury compound in the blood, and that secretion of the urine is thereby increased. The latter theory seems the simpler and more in accordance with all that has been observed. One objection to it, that diuresis was not excited in normal subjects, no longer holds, since it has been found that a moderate increase in the urine does occur after the administration of calomel in health.

Succinamide of Mercury for Subcutaneous Injection.

In connection with the diuretic action of mercury, a method for giving it subcutaneously, to act as a diuretic, or for other purposes may in some cases be advantageous. The use of succinamide of mercury, which has thus far been used only in syphilis, was suggested by v. Mering, and it was given to a number of patients by Dr. Bollert, who employed a subcutaneous syringeful (one-quarter of a drachm) of a one per cent. solution. It is necessary that the injection should be made well under the skin but not in the muscular tissue, and that the needle should be kept clean and carefully disinfected. No observations were made upon its effect on the secretions.—*Therapeutische Monatshefte*, Sept. 1888.

Antiseptic Solution.

The following mixture is proposed by Dr. Emil Rotter.

To a quart of spring water are added—

Corrosive sublimate	$\frac{1}{10}$th gr. (1:20,000).
Chloride of sodium	gr. iv.
Carbolic acid	gr. xxx.
Chloride of zinc,	
Sulpho-carbolate of zinc . . .	āā gr. lxxv.
Boric acid	gr. xlv.
Salicylic acid	gr. ix.
Thymol,	
Citric acid	āā gr. jss.

This solution remains clear on standing, is odorless and colorless.

These ingredients may be carried in powders and dissolved as required.—*Centralblatt für Chirurgie*, Oct. 6, 1888.

Sulphonal.

A report of the use of this hypnotic in the wards of v. Ziemssen is given in the *Centralblatt für klinische Medizin* of Oct. 6, 1888.

Of twenty-seven cases, 72 per cent. obtained at least six hours' sleep after its use; in 9 per cent. it was incomplete in its action, and in about 19 per

cent. the result was negative. There were accompanying symptoms in 20 per cent., of fatigue, indisposition, ringing in the ears, headache, or vertigo; vomiting was noticed in one or two cases after its use.

It is slower in its action than chloral hydrate, and its effect is obtained in one-half to three hours. It has no special influence on the pulse, temperature, or respiration.

The dose varies from fifteen to thirty grains; as a rule, fifteen grains are sufficient; though this has to be determined by experiment for each case.

It has the advantage over other hypnotics of less marked odor and taste and in not affecting profoundly the vital centres.

Camphoric Acid.

As an application to mucous membranes for the treatment of catarrhal inflammation, this substance has recently been recommended, by Dr. Max Niesel, in the *Deutsche med. Wochenschr.* of Oct. 4, 1888.

It is obtained from camphor by oxidizing it with nitric acid; it is crystalline, slightly soluble in water, but readily so in alcohol and ether, and has a somewhat acid taste. It may be used locally in the form of gargles, spray, or powder. It is not a poisonous substance, though doses of thirty grains have caused vomiting, possibly in consequence of local irritation; in small doses it is well borne. Combined with bicarbonate of sodium, a solution is obtained which is more convenient than a solution of the acid in alcohol: an eleven per cent. solution of alcohol will dissolve only one per cent. of the acid.

In the treatment of catarrhal affections of the larynx, nares, and bronchi, as well as in chronic cystitis, it may prove to be a valuable remedy.

Cocaine in Vaginismus.

In the *British Medical Journal* of Oct. 13th, Dr. James Edwards reports a case of vaginismus in which a vaginal pessary, containing a grain of cocaine, was inserted at night and gave complete relief.

Treatment of Lupus.

A case of the successful use of liquor sodii ethylatis reported in the *British Medical Journal* of Oct. 6th, suggests the value of this liquid in certain cases of lupus.

The application was made daily for three successive days by means of a small glass tube; two or three days later the patches of lupus were covered with dry crusts which, on removal, disclosed a perfectly healthy surface.

In using this solution in the treatment of small patches of lupus, it is not necessary to give an anæsthetic.

Water should not be allowed to touch the part while the solution is being applied.

[Liquor sodii ethylatis is made by dissolving metallic sodium in cooled absolute alcohol; it is decomposed if brought in contact with water.—Ed.]

Sterilization of Catgut by Heat.

Reference has already been made to this method of sterilizing catgut, which was described by Prof. Reverdin. In the *Revue Médicale de la Suisse Romande*, Sept. 24, 1888, he publishes a further account of it, with the result of the examination of samples of catgut by Dr. V. Bovet, who confirms its aseptic character. Specimens of catgut were placed in flasks containing peptonized bouillon, glycerin, sugar, etc., which were submitted to different temperatures; the catgut remained intact and had caused no reaction at the end of six weeks, while catgut which had been soaked in a disinfectant solution for twelve days gave a cloudiness to the bouillon in thirty-six hours.

Clinically it is found scarcely to irritate the tissues, and the secretion of pus is slight. Further, the catgut which has been sterilized in this way is strong and not too easily absorbed, and thus possesses other desirable qualities.

MEDICINE.

UNDER THE CHARGE OF

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Local Treatment of Cerebral Meningitis.

Mosler (*Deutsch. med. Wochenschr.*, 1888, 621) has during several years employed blisters to the scalp in meningitis with good results. In one very threatening case of meningitis accompanying acute rheumatism, in which many other means of treatment had been employed in vain, a cure followed with suprising promptness the application of a large blister over the shorn scalp, and two behind the ears. Experiments on animals have convinced him that, to be effectual, the blisters must be large, and the treatment persisted in. The author also reported a case of chronic hydrocephalus in which he repeatedly performed aspiration, followed by a compressory bandage to the head. As is usual in such cases, the procedure was not followed by any permanently good results, and on one occasion serious symptoms were induced by it.

Pernicious Anæmia.

Wm. Hunter (*Lancet*, October 6, 1888, 658) summarizes the results of a study of the nature of pernicious anæmia as follows: 1. Pernicious anæmia is to be regarded as a special disease, both clinically and pathologically. 2. Its essential pathological feature is an excessive destruction of blood. 3. The

most constant anatomical change to be found is the presence of a large excess of iron in the liver. 4. This condition of the liver serves at once to distinguish pernicious anæmia post-mortem from all varieties of symptomatic anæmia, as also from the anæmia resulting from loss of blood. 5. The blood destruction characteristic of this form of anæmia differs both in its nature and its seats from that found in malaria, in paroxysmal hæmoglobinuria, and in other forms of hæmoglobinuria. 6. The view can no longer be held that the occurrence of hæmoglobinuria simply depends on the quantity of hæmoglobin set free. 7. On the contrary, the seat of the destruction and the form assumed by the hæmoglobin on being set free are important conditions regulating the presence or absence of hæmoglobinuria in any case in which an excessive disintegration of corpuscles has occurred. 8. In paroxysmal hæmoglobinuria the disintegration of corpuscles occurs in the general circulation, and is due to a rapid dissolution of the red corpuscles. 9. In pernicious anæmia the seat of disintegration is chiefly the portal circulation, more especially that portion of it contained within the spleen and the liver, and the destruction is effected by the action of certain poisonous agents, probably of a cadaveric nature, absorbed from the intestinal tract.

The Pathology of Recurrent Fever.

After comparing the epidemic observed by himself in 1885–6 with those reported by other writers, Puschkareff (Virchow's *Archiv*, cxiii. 421) gives the results of his studies on the pathological anatomy of the disease, made on the organs of thirty individuals.

By comparison of different specimens it was possible to follow the affection through all its different stages; a thing not previously accomplished. The organs examined were the spleen, liver, kidneys, heart, brain, and marrow of the bones. Considering the microscopic changes in the spleen and liver—the organs chiefly affected—we find at the *height of the first attack* a deposition of lymphoid elements in the Malpighian corpuscles of the spleen, as well as in foci in its pulp. In the liver there is a moderate dilatation of the intralobular capillaries and a decided parenchymatous change of the endothelium lining them, together with an accumulation of fat globules. The capillaries are further filled with red and white blood cells, among which are scattered large, faintly granular elements, probably coming out of the spleen. There is also a parenchymatous degeneration of the liver cells.

In the *first apyrexia* there is a retrograde metamorphosis of the lymphoid elements in the spleen, with the appearance in the pulp of a close network of thick, shining fibres. In the liver, the cells and the capillaries, with their endothelium and contents, return gradually to their normal condition.

At the *height of the second attack* there is another deposition of lymphoid elements in other Malpighian bodies and in foci in parts of the pulp not before affected, continuance of the retrogressive changes in the former foci of disease, and the appearance in the pulp of large, multinuclear elements, especially along the venous sinuses. In the liver there is a fresh and much more decided dilatation and parenchymatous degeneration of the capillaries. The large splenic elements appear in the hepatic capillaries in greater numbers, but very little blood is to be found in them. The endothelium of

the capillaries is less well marked, and fat globules are almost absent. There is again a parenchymatous degeneration of the liver cells.

In the *second apyrexia* retrogressive change begins in the new foci in the spleen and goes on in the old, while the liver as before returns to its normal condition.

In the *third attack* fresh spots in the spleen are involved, while the retrograde changes proceed in those previously involved, and there is a still more marked development of the large multinuclear elements in the pulp. In the liver there is an enormous dilatation of the capillaries; the changes of their endothelium and contents being similar to those of the second attack, except that no trace of fat globules is to be found.

In the *third apyrexia* the spleen behaves as in the second, and the liver tissues again return to the normal condition.

In general, we see that in recurrent fever there is a parenchymatous degeneration of the cells of the organs and of the epithelium of their bloodvessels, which in the majority of cases does not reach that stage which forbids complete recovery. In some cases, however, permanent alterations remain; such as fatty degeneration of the heart muscle, and changes of the connective tissue in the liver, spleen, and kidneys. The author agrees entirely with those writers who do not distinguish between bilious typhoid and recurrent fevers.

Porencephalus.

Audry (*Revue de Médecine*, Nos. 6 and 7, 1888) has collected from the literature 100 cases and adds 3 of his own. An exhaustive analysis is given. Of 90 cases, with full details, the defect was bilateral in 32; the left hemisphere was affected in 38 and the right in 20. In 62 cases the cavities or spaces communicated with the ventricle. The condition may result from a variety of causes, acting usually during fœtal life; such as arrest of development, extreme hydrocephalus, embolism, hemorrhage, encephalitis, or profound anæmia of the hemispheres.

The symptoms are varied. In 68 cases there was hemiplegia, in some cases the paralysis was general. This bears out the importance of this condition in the cerebral palsies of children, as shown above, in the analysis by Osler of 90 autopsies in infantile hemiplegia. Idiocy and imbecility are very common sequences. Of 57 cases, with full information as to mental condition, 30 were complete idiots, 12 imbecile, and 15 with fair intelligence.

Dystrophia Muscularis Progressiva.

Limbeck (*Fortschritte der Med.*, 1888, 765, from *Zeitschr. f. Heilkunde*, B. ix.) reports three instances of the disease, of the hereditary type of Leyden, especially interesting because a microscopical examination of a portion of excised muscle was made in the early stages of the disease. The patients were two sisters, in whom weakness and atrophy appeared in the flexors of the hip and extensors of the back. The portion of excised muscle (from the erector trunci) showed no increase of the perimysium externum or internum, or of the muscle nuclei. In a few places there was a slight increase of connective tissue, with a formation of fat, apparently at the expense of the contractile

substance. The progressive changes in the muscular fibres were much as follows: there developed suddenly in some spot a rounded swelling, with a disappearance of the striation of the muscle, which took only a diffuse stain when treated with dyes (Coagulation). This change gradually extended to the whole fibre, and the sarcolemma could then be seen distinctly outlined and with nuclei, but filled only with a homogeneous, shining substance, which could be stained only diffusely, and which exhibited only here and there evidences of transverse striation.

Neuritis Fascians.

Eichhorst (Virchow's *Archiv*, B. cxii. 237) reports the case of a drunkard who, six weeks before death, developed paralysis, rapid atrophy, and great tenderness of the lower extremities and later of the muscles of the arm supplied by the radial nerve. The skin was anæsthetic and the tendon reflexes abolished. The autopsy revealed no change of the spinal cord, except a few small recent hemorrhages in the dorsal region. The peripheral nerve trunks were much atrophied and contained but few healthy fibres, which were separated by bright, circularly shaped structures, the remains of greatly atrophied fibres. The endo-, peri-, and epineurium of the nerve-trunks were unaffected.

The peripheral branches were even more extremely atrophied than the trunks, and differed from them in that there was a decided increase of the endo- and peri-neural connective tissue; the thickened connective tissue lamellæ extending between the primitive muscular fibrillæ, and in part surrounding them and producing their atrophy by pressure. On account of this peculiar condition, which the author has not before seen in alcoholic neuritis, he applies to the affection the adjective "fascians."

Phenacetin in Migraine.

Rabuske (*Deutsch. med. Wochenschr.*, 1888, 37, 767) had under his care a case of hemicrania in a woman who had been subject to the disease for years. The attacks occurred every morning and lasted until evening, when they disappeared, attended by chilliness, langour, and paleness of the face. The headache was so severe that life became a burden. Many forms of treatmen had been tried in vain, including the use of antipyrine and antifebrin, and the disease was only growing worse. Finally the writer gave phenacetin in doses of half a gramme, morning and evening. After six such doses the attacks disappeared without unpleasant symptoms.

Myxœdema.

J. Campbell (*Montreal Med. Journ.*, October, 1888, 256) reports an anomalous case of myxœdema. There was a swollen appearance; the skin was waxy, thickened over the whole body, and resilient. Paræsthesia was well marked; the thyroid gland could not be discovered; there was decided slowness of intellect; the urine contained no albumen. The case was anomalous in that there was present a ravenous appetite. There were hungry spells every two hours, when profuse perspiration would suddenly break out, but would

as suddenly disappear when the patient took nourishment. If she did not take food when hungry, a sense of weakness came on with trembling and inability to sit up in bed. She slept soundly, but awakened every two hours; if she slept longer than this time she awakened hungry and weak, and with the trembling mentioned, all of which disappeared after taking nourishment.

The Therapy of Convalescence from the Morphia and Cocaine Habits.

Under this title Levinstein (*Deutsch. med. Wochenschr.*, 1888, 35, 715) would describe the treatment of that period beginning with the time when the symptoms caused by the withdrawal of morphia or cocaine begin to disappear, and lasting long after complete recovery has apparently taking place. Were more attention given to the patient during this stage of apparent health, fewer relapses would take place. It is very necessary to impress on the patient the dreadful consequences of a relapse into the old habits, and in like manner to teach him that permanent cure must be through the exercise of his own will. It is a notable fact, too, that when several persons, under treatment for the morphia habit, are together in an institution for the cure of these patients, they are very apt to associate with one another, to talk freely of their affection, and often to combine to deceive the physician in charge. This association is to be carefully avoided, for there is nothing more ruinous to the recovery of the lost will-power, than to allow the thoughts of conversation to run on the subject of morphia. The whole therapy of the convalescence shortly after the withdrawal of morphia or cocaine may be summed up in careful oversight of the patient, strict avoidance of alcohol in an institution for the purpose, and the avoidance of all unpleasant psychic impressions. While in the institution no friends or relatives should be allowed to stay with the patient, since they are not under the entire control of the director. When, however, the patient leaves, after six or eight weeks a desire for occupation should be encouraged under the constant supervision and presence of a near relative, an intimate friend, or a physician. This supervision should be both by day and night, and should last at least a year.

Basedow's Disease.

A. Huber (*Deutsch. med. Wochenschr.*, 1888, 36, 729) reports an interesting case of Basedow's disease in a woman of twenty years of age. After taking cold four years before there had developed a peculiar spasm of the left arm with a tremor and progressive weakness and emaciation of the member, especially of the hand. Not until after three years did the thyroid gland decidedly enlarge, and the eye become prominent. Still later, tremor of the legs appeared. At the time of examination there were struma, exophthalmus, rapid cardiac action, slight fever, general psychic excitement, left sided hemianæsthesia, and marked atrophy and paralysis in certain muscles of the left arm. The author omits the discussion of the three cardinal symptoms of the disease, but quotes largely the opinions of various writers concerning the others.

He believes that in this case the changes in the left arm and those begin-

ning elsewhere were certainly of central origin, probably identical with those of progressive muscular atrophy. He believes, too, that Basedow's disease may be of central origin, though its pathogenesis is by no means certain.

The Influence of the Vapors of Hydrofluoric Acid on Tubercle Bacilli.

In connection with the paper of Gager, reported in The American Journal of the Medical Sciences for October, 1888, it is well to notice the results of the experiments of Grancher and Chautard, quoted in the *Centralblatt für klinische Medicin*, 1888, 39, 708. Inhalations of the acid were given to animals which had received intra-venous injections of tubercle virus; but it was found that those treated in this way died as soon as those which did not receive inhalations. The influence of the acid on the growth of the bacilli was also tried, and such a strength of the vapor admitted that the walls of the culture glass were corroded without killing or even entirely destroying the virulence of the microbes. Still, their virulence was evidently weakened, for an animal inoculated with the microbes thus treated lived for two months (and was then killed and found tubercular), while those in which bacilli had been used, which had not been exposed to the action of the acid, died in fourteen to seventeen days. The authors conclude, accordingly, that the idea of killing the bacilli within the human body by the inhalation of hydrofluoric acid cannot be entertained, but the possibility of weakening, or perhaps even destroying their virulence, must be admitted.

The Treatment of Phthisis with Calomel.

A. Dochmann (*Therap. Monatshef.*, 415, Sept. 1888), after reviewing the literature pertaining to the employment of mercury in phthisis, says that in his experience calomel has a rapidly favorable action in the ordinary forms of anæmia, even in cases in which iron has been without effect. It increases the appetite, removes habitual constipation, and regulates menstruation persistently delayed. Then there is a class of cases in which the anæmia is the result of an already existing phthisical dyscrasia. As is well known, iron in these cases is entirely without benefit, and even sometimes injures by disturbing digestion. Pulmonary affections, so slight as to be overlooked, often present such symptoms, with disturbance of the general nutrition. As the disease advances a slight fever appears, with a slight dry or mucous cough, and, finally, objective symptoms become evident. In such cases the treatment with calomel through two or three months is followed by the best results; appetite increases, cough and fever diminish or even disappear, and the night-sweats cease. The author reports in full two cases illustrative of those treated by this plan; both of them showing the excellent action of calomel in this disease. In just what way the drug influences phthisis favorably is not known, nor are we even certain in what way it is rendered soluble and absorbed into the system. It is superior to other forms of mercury in that it prevents processes of decomposition in the intestinal canal, without any injurious action on the digestive ferments. How mercury acts on metabolism is not understood, but it has been proved by various observers that

small doses do not at least interfere with it; it seems probable that it has a specific action on the tuberculous poison; and its power in hindering inflammation has long been known. The author administers the drug in doses of about one-fifth of a grain in pills. On the first day the patient takes six doses of two pills each; on the second day five doses; on the third day four doses, and from the fourth day onward two pills three times a day, through the whole period of treatment. Every five or six days the administration of the medicine is stopped for two or three days. With every increase of fever the dose is raised to twelve or fourteen pills a day. Attention to hygiene and nourishment is, of course, important, and for the latter purpose the employment of koumiss is a valuable aid.

G. MARTELL (*Prag. med. Wochenschr.*, No. 25, 1888) has for three years been using calomel in tubercular processes, and has learned to consider it the best specific antiseptic for them, while under proper precautions no unpleasant consequences follow its employment. He has had the most favorable results with it in tubercular diseases. In the external form it may be used as a powder applied directly to the parts, while, when the lungs are involved, it may be either internally or topically by inhalation.

CREASOTE IN THE FORM OF MINERAL WATER IN TUBERCULOSIS.

J. ROSENTHAL (*Berl. klin. Wochenschrift*, 32, 640, 667, 1888) speaks of the change in the views of physicians which has occurred in later years, concerning the treatment of the infectious diseases. Either attention is given to the rendering of the organism resistant against the action of microbes which have entered it, or antiseptic substances are used which shall directly injure them, or, at least, render the tissues in which they have settled less fit for their nourishment and growth. The author reviews some of the various methods of treatment which have been employed for the cure of phthisis, and shows what negative results have attended them. There is, indeed, scarcely any medical substance which has not been tried for it. He believes that, in spite of these facts, the only manner in which we can hope successfully to combat the disease is by the way of antisepsis. For this purpose he uses creasote; a substance not new, and which has been often tried and found of service in phthisis, but whose administration, in the form in which he gives it, has not before been recommended. He details at considerable length the opinions of former writers for and against the value of creasote in phthisis, and relates the experiments of Koch, which proved that in a dilution of 1 in 2000 it prevented the growth of tubercle bacilli on culture media, and in a dilution of 1 in 4000 greatly interfered with it. Basing his opinion on this, Guttmann claimed that to prevent the growth of tubercle bacilli in the organism, at least enough creasote must be given that there shall be a dilution of 1 in 4000 of it in the blood, and that to maintain this quantity there would be required an amount much too great for therapeutic purposes.

Rosenthal has made a great number of experiments on thirty-two varieties of microörganisms, using a one per cent. carbonic-acid-creasote-water in such a quantity that the culture medium contained 1 in 2000 of creasote. The results showed that with this strength there was either no growth or but very slight growth of the microbes. Further experiment proved that creasote in

weak dilution will not only hinder the growth of the microbes, but will actually kill them. The objection raised by Guttmann was next met by showing that sufficient carbonated creasote water could be given hypodermatically to a rabbit, to make a dilution of 1 in 4000 in its blood, without producing any disturbance of general nutrition.

The internal administration of creasote in carbonic acid water is especially to be recommended, because it renders more agreeable a drug unpleasant to the taste, in the form of mineral water it acts many times more powerfully, and carbonated water itself has a favorable action on expectoration and on digestion. That creasote may have a favorable influence on the phthisical process, it is necessary that it be administered throughout a long period of time. Cases in which there is constant or frequent febrile action, or in which the bacilli in the sputum are very abundant, are less fitted for treatment with it, but even here it may be of benefit. It is especially valuable when commenced early in the initial apex-catarrh. The good effects of the creasote water begin to appear in the first few weeks, and consist in increase of appetite, diminution of expectoration, disappearance of cough, of dyspnœa, and of pain in the breast, and in increase of weight. Those patients who can visit health resorts should add the use of creasote to their hygienic treatment. Carbonated creasote water should be prepared of such a strength that each litre contains 0.6 to 1.2 grammes of creasote and 30 grammes of cognac. Of this an amount equalling 0.1 gramme creasote should be taken on the first day, and the dose gradually increased until 0.8 gramme is taken daily.

Glycerine in Constipation.

Gerstacker (*Therap. Monatsschr.*, 425, 1888) speaks of the actual value which Oidtmann's purgatif possessed, and of the discovery by Anacker that injections of glycerine had equally good effects. He has himself repeatedly given glycerine in this way with success, and often in cases in which large aqueous injections had been unavailing. By attaching a rubber tube one-half a metre long to the nozzle of the small syringe used for the enema, all inconvenience is avoided, and the patient can readily use enemata unassisted while lying on the back. Careful observations were made on fifty-five cases. In one instance the evacuation of the bowels did not occur for six hours; the average time required was eight and a half minutes, and the shortest was two minutes after the injection. Forty-five times the evacuation was copious; five times scanty. Usually the stool was semi-liquid; eleven times hard. Four times there were repeated evacuations. Careful interrogation of the patients never revealed the presence of any discomfort in the rectum after the enema; and only three patients experienced rumbling or pain in the abdomen between the injection and the evacuation.

Glomerular Nephritis.

After reporting some cases of glomerular nephritis with microscopical studies, and discussing at length the nature of the disease, Obrzut (*Rev. de Méd.*, 689, 1888) concludes that in the period of convalescence from scarlatina, there is a nephritis localized in the glomerules. It is at least probable,

though difficult to prove, that this is due to microörganisms leaving the system through the kidneys. His experience has not been sufficiently extended to allow him to determine whether it develops after other infectious diseases. It is certainly, however, a very common affection. The first step in the process is of an inflammatory nature, and consists in hyperæmia, and the migration of leucocytes into the intercapillary interstices, and the formation of perivascular and intravascular connective tissue. The epithelium covering the tuft proliferates and desquamates, falling into the cavity of the capsule, and takes part with the red and white blood cells in the formation of fibrin (fibrinous glomerular nephritis).

The inflammation of the internal surface of the capsule has no greater import than that of the epithelium covering the tuft, except that the former may alone constitute a glomerular nephritis and bring about the destruction of the glomerule. Judging from his own cases, he deems it improbable that all cases of acute nephritis must necessarily be complicated or preceded by inflammation of the glomerule. The product of the inflammation of the capsule of Bowman or of the vascular tuft does not differ from that of any other sort of inflammation; but consists of a new-formed connective tissue, which often undergoes hyaline transformation.

SURGERY.

UNDER THE CHARGE OF

J. WILLIAM WHITE, M.D.,

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The Treatment of Wounds without Drainage.

Recognizing the desirability of avoiding in all possible ways irritation and disturbance of wounds, Rydygier (*Archiv für klinische Chirurgie*, Bd. xxxvii., 1888) has treated forty serious cases without drainage by the following method:

1st. He selected only such wounds as promised to heal by first intention, those in which no portion of diseased tissue was left behind.

2d. Thorough disinfection was practised *before* the operation, during which irrigation was used very sparingly; the stitches were applied loosely.

3d. Several layers of iodoform or sublimate gauze, wrung out of a 1 : 1000 sublimate solution, were laid upon the wound; over this a loose wad of gauze or cotton; then layers of dry sublimate gauze and cotton and an antiseptic bandage.

His cases included resections of large joints, arthrectomies, amputations, ligatures of arteries, a Wladimiroff-Mikulicz operation, etc.

In the majority of them he obtained union by first intention. In eight there was failure to do this, but no serious accident.

The Prognosis of Carcinoma after Surgical Interference.

König (*Archiv für klinische Chirurgie*, Bd. xxxvii., 1888) calls attention to the fact that the risk to life from operations for the removal of cancer is steadily diminishing, owing to progressive improvement of the technique. The most important question now is, whether we stand in a position through operative measures to cure carcinoma. Speaking with strict scientific accuracy, "cure" would mean that after a long series of years not only would there be not the slightest return of the disease at the seat of operation, but also none elsewhere, as metastatic or glandular carcinoma. Practically, however, for both the surgeon and patient "temporary" cure is an important question. If the latter can be freed from a painful disease two, three, or four years and his life prolonged for a portion of that time, an important service is rendered him.

At the Göttingen Clinic, of 66 cases of return of the disease after operations for cancer of the breast, nearly half recurred during the first six months, and another third, making 52, during the second six months. Of the remaining 14, the return occurred in 7 at the end of the second year; in 4 at the end of the third year; in 2 during the fourth year, and in 1 as late as ten and a half years.

Of 77 cancers of the rectum, 60 were operated upon by removal of the diseased bowel; 16 with extirpation of the anus and a portion of the rectum; 44 with resection of the rectum but retention of the anus. The peritoneum was opened 15 times, but in only one case did suppurative peritonitis result. Much importance was attached to the preliminary preparation of the patient by diet, emptying the bowels, etc. 18 per cent of the patients remained cured for more than three years; 10 per cent. for more than two years. Of 4 patients upon whom extirpation was practised, 1 had a stricture; not one had continence of feces. Of 17 operated on by resection 2 had stricture; 9 incontinence; 6 were able to retain the feces. The author thinks these results not very encouraging, and recommends colotomy as a palliative measure in cases of rectal cancer that cannot be operated upon.

The Abortive Treatment of Syphilis.

Dr. J. William White (*The Medical News*, October 27, 1888) reviews the subject of the early treatment of syphilis, recommended under the above title by Mr. Jonathan Hutchinson, and arrives at the following conclusions:

1. While it is unquestionably desirable to begin mercurial treatment at the earliest proper moment, and while that treatment undoubtedly either suppresses or renders milder the subsequent secondary manifestations, and while there is every reason to believe that in this way the liability to later or tertiary lesions is somewhat lessened, nevertheless, the sum-total of these advantages does not warrant the employment of mercury one moment before the diagnosis of constitutional disease is absolutely assured.

2. While in many cases that diagnosis can be made with a high degree of probability from the appearance of the primary sore alone, yet it cannot be said that all possibility of error is excluded until some general symptom, such as the enlargement of distant lymphatic glands, has shown itself.

3. The administration of mercury during the existence of the primary sore,

unaccompanied by general symptoms, for the purpose of suppressing or "aborting" syphilis, is not, therefore, justifiable, unless by confrontation the diagnosis can be confirmed, or unless there are urgent and unquestionable reasons for securing rapid cicatrization of the chancre.

4. It is proper to employ cauterization or excision according to the site of the chancre, in cases in which it is seen very soon after its appearance, and especially when it is known to have followed intercourse with a syphilitic person. The chances of preventing constitutional infection in this way, while very slight, may yet be considered sufficient in such cases to counterbalance the disadvantages of the method, such as pain, swelling, the production of phimosis or of suppurating bubo, and the obscuring of the diagnosis by the resulting inflammatory exudation.

5. Aseptic or antiseptic measures, while harmless, cannot be considered especially indicated in the local treatment of chancre, and can, in all probability, have no true abortive influence.

6. The local use of mercurials, hypodermatically or by inunctions, is perhaps worth a trial, but it is probably inferior to the more radical methods, based essentially upon the same principles, namely, excision and cauterization.

Thoracotomy for Sarcoma of the Chest-wall.

Dr. Roswell Park (*Annals of Surgery*, October, 1888) reports an interesting case in which, after amputation of the thigh for sarcoma, the disease recurred in the chest-wall a little above and to the outer side of the left nipple. The growth was about the size of a hen's egg, and involved the entire thickness of the thoracic wall. Operation was decided upon and performed as follows: The skin over the tumor was separated without any difficulty, after a crucial incision had been made; on dissection it at once appeared that two, if not three, ribs were involved in the mass, and that total excision would be necessary. To this end, the periosteum was separated on the inner side of the last rib involved, at a short distance from the edge of the mass. The rib proved extremely fragile and broke, a spicule of bone being forced through the pleura. So soon as the pleural cavity was thus opened, the opening was rapidly enlarged with a finger, which determined that the growth was larger on the inner side of the thorax than on the outer; also, that there were adhesions in at least one place to the lung beneath. As rapidly as possible the tumor was excised with the four ribs which seemed involved, and which proved to be the fourth, fifth, sixth, and seventh; thus taking out a portion of the thoracic wall some five inches in length by three and one-half inches in width. After removing all of the thoracic attachments, it was found that the band of adhesion connecting it with the lower border of the upper lobe of the lung was long enough to tie, and after throwing around it a strong ligature the mass was easily detached. During and after its removal, a beautiful demonstration of the action of the heart in its pericardial sac was afforded. Hasty examination of the left lung, both ocular and by palpation, revealed numerous nodules scattered through the lung tissue of both lobes and on their surface. Had there been a single sarcomatous mass, a portion of the lung might have been excised.

During all this procedure the patient's respiration was but slightly dis-

turbed, it became more rapid, but the rhythm was not much altered; his pulse, however, became quite weak, and stimulants were frequently given hypodermatically. He recovered from the shock, however, and lived for a week. At the autopsy the right lung was found filled with sarcomatous nodules.

Partial Resection of the Symphysis Pubis in Operations at the Bladder.

Helferich in three cases has removed a portion of the symphysis pubis in order to afford readier access to the bladder. In one case the condition necessitating the operation was tuberculous caries of the symphysis itself. In the others it was carcinoma of the bladder, and great enlargement of the middle lobe of the prostate. Helferich recommends (*Archiv für klinische Chirurgie*, Bd. xxxvii, 1888) a partial resection as giving sufficient room in most cases without interfering with the solidity of the pelvis. He makes a transverse incision and pushes back the soft parts. He pays but little attention to the periosteum, except that at the lateral portions of the pubis which are to be retained. He thinks it useless to attempt an osteoplastic resection of the symphysis, as frequently in the cases in which this operation is done it will be found impossible to close the bladder wound. After reaching the bone, he divides it on either side to the necessary depth, perpendicularly with a broad sharp chisel; and then placing the chisel horizontally at the required level and beginning at one of the perpendicular lines, he divides the symphysis from before backward carrying the chisel from each end of the exposed bone toward the centre. The upper portion of the symphysis thus loosened is easily removed. In the case of caries, complete union occurred in two months. The case of carcinoma of the bladder showed the great advantage of this method, giving free access to the tumor which was upon the upper aspect of the posterior wall, and was excised together with sound tissue on either side of it. The bladder wound was sewed with catgut stitches. There was considerable strangury for a few days, but it gradually diminished, and healing was complete in three weeks. His case of prostatic enlargement died eight days after the operation, but was a very unfavorable one from the beginning—having had retention of urine, urethrorrhagia, etc., for some time previously.

He considers the procedure an easy one in all respects and one that can be completed in a few minutes, but recommends preliminary practice on the cadaver. The indications for the operation are large malignant tumors, some forms of prostatic hypertrophy, excessively large stones or encysted stones, cases of rupture of the bladder, etc.

Perineal Lithotrity.

Mr. Reginald Harrison (*New York Medical Journal*, October 6, 1888) calls attention to the statistics furnished by Mr. Donald Day, in a paper on "Repeated Lithotomy" (*British Medical Journal*, Feb. 13, 1886), showing 50 cases in 1124 individuals, 30 of the 50 recurrences having been due to local causes, including undetected stones, stones formed on a fragment left after the previous operation, and cystitis. These figures included only

lithotomy cases, but apply to lithotrity with even greater force. Mr. Harrison thinks that if the advantages of litholapaxy could be combined with those of lithotomy, so far as the latter proceeding relates to the digital exploration of the bladder, much advantage would follow in cases in which, from structural complications, a recurrence after lithotrity might almost with certainty be anticipated. Mr. Harrison does not say what these complications are, but proceeds to describe "perineal litholapaxy" as meeting the indications, inasmuch as it would permit of (1) the digital exploration of the bladder and associated parts, both before and after the removal of the stone; (2) the rapid evacuation of the stone; and (3) the drainage and irrigation of the bladder should this prove necessary. He has operated thus in four cases of vesical calculus. In three of these the prostate was large, and he was desirous of draining the bladder after removing the stone; in two of these litholapaxy had been previously performed. In the fourth case the stone was very large.

Catheterization of the Male Ureters.

Axel Wersen reports (*Cent. für Chirurgie*, No. 16, 1888) a case of calculous pyelitis, in which, for the purpose of catheterizing the ureter, he performed a supra-pubic cystotomy. The examination disclosed a condition of the kidney on the opposite side from the original disease, which contraindicated the nephrectomy that would otherwise have been performed. The urine collected by the catheter showed a profuse epithelial desquamation. He considers the supra-pubic operation as attended with so little danger that it is justifiable to practise it merely for exploratory purposes.

Antiseptic Internal Urethrotomy.

Mr. W. Bruce Clarke (*Lancet*, October 13, 1888) has operated on fifteen cases of stricture of the urethra with the following antiseptic precautions, the adoption of which, he believes, will remove internal urethrotomy from the category of dangerous operations: 1. The urethra is rendered as pure as possible by previous irrigation, and for several days beforehand, both with hot water and a 1 to 2000 solution of corrosive sublimate. 2. The instrument which is to be employed should be taken to pieces and carefully scrubbed in soda and water, and soaked in carbolic acid (1 to 20) for at least ten minutes before the operation, and only put together at the last moment, just before it is to be used. 3. When the urethra has been freely divided a full-sized catheter should be passed into the bladder and retained there for twenty-four hours. The catheter should be a new one, and should be allowed to soak in carbolic acid (1 to 100) for at least twelve hours previous to the operation. In his series of fifteen cases there was but one rigor, and that was not attended by any severe constitutional disturbance.

The Curability of Urethral Stricture by Electricity.

Dr. E. L. Keyes (*New York Medical Journal*, October 6, 1888) reports in detail the results of his investigation into the alleged remarkable results obtained by the employment of electricity in stricture of the urethra. He

followed, in his experiments the rules laid down by Dr. Robert Newman, who has reported two hundred radical cures (!) by this method. He employed the insulated urethral conductor of Newman, a constant battery, with a milliampèremeter in the circuit, and controlled this with another joined on the same circuit. The experiments were conducted with a current of 5 milliampères and below, and the negative pole of the electrode, lubricated with glycerin, was used. Eight patients, with strictures varying in calibre from filiform to 22 millimetres, were treated, one of them by Dr. Newman. In the latter case Dr. Keyes found, after about five months' electrical treatment, and after the patient had been under observation for seven months, that the stricture was worse by three sizes than before treatment was begun, recontraction to that extent taking place in less than eleven weeks. In his own test cases he found that in no instances did any more benefit appear from the electricity than could have been obtained by ordinary dilatation; that most positive failure of cure must be reported for all; that pain, local inflammation, putting the patient to bed, and threatened perineal abscess must be noted as among the complications of treatment; that relapse as to recontraction of the stricture was found after a moderate interval in all the cases tested, being most marked, however, in the case of the patient treated by Dr. Newman himself.

In conclusion, Keyes states that electrolysis with a very mild current—less than two and a half milliampères—does no harm; in fact, does nothing appreciable, and does not interfere with the benefit to be derived from ordinary dilatation; a strong current is full of danger, both immediately, from irritating effect, and ultimately from cicatricial effect, and employment of a negative pole does not prevent this. It has not been demonstrated that electricity, however employed, is able radically to remove organic urethral strictures. The paper is an admirable one in tone and method, and should go far toward dissipating what was, undoubtedly, a growing professional estimate of the value of the electrical treatment of stricture, a view which we have always felt to be unwarranted and without scientific foundation.

Hernia into the Foramen of Winslow.

Mr. F. Treves reports (*Lancet*, Oct. 13, 1888) a case in which there were symptoms of acute intestinal obstruction, with moderate abdominal distention, but very conspicuous bulging of the anterior abdominal wall in the epigastric and hypochondriac regions, with dulness on percussion and tenderness over the whole epigastric area. Rectal examination revealed nothing. An exploratory operation was performed on the eighth day by median section. It was impossible, on account of intestinal distention, to demonstrate the precise relation of the parts, but a hernia through the foramen of Winslow was thought to exist. It could not be reduced, and as it was not possible to enlarge the opening without dividing the hepatic artery, portal vein, and bile duct, the attempt at relief was abandoned. The patient died in six hours. At the autopsy it was found that the cæcum, the whole of the ascending colon, and a part of the transverse colon, had passed through the foramen and become strangulated. The cæcum was to the extreme left of the abdominal cavity, and had forced its way through the anterior layer of the gastro-hepatic

omentum, so that the vermiform appendix was actually lying on the anterior aspect of the lesser curvature of the stomach, close to the œsophagus.

This hernia is very rare. The foramen is placed above the intestinal area; will usually only admit a finger or thumb; the only portions of the bowel in close relation to the foramen are the duodenum, the hepatic flexure of the large intestine, and the transverse colon, all of which, as a rule, are firmly fixed. Mr. Treves thinks that such a hernia is only possible when an abnormality of the intestine and its mesentery exists, which represents a reversion to the condition of intestine met with in the lower animals. The cæcum and ascending colon in this case, together with the jejunum and ileum, were slung by a common mesentery, the attachment of which to the posterior parietes was about the duodenal region. There was no mesentery with normal attachments. Only four similar cases have been recorded; they are quoted by Mr. Treves.

Railway Spine.

Dr. H. C. Tweedy (*Dublin Journal of Medical Science*, October, 1888), in a report on nervous diseases dependent on spinal concussion, summarizes as follows an address recently given by Dr. Oppenheimer before the *Verein für innere Medicin*:

Certain symptoms are common to all, or at least to the majority of cases of nervous disease consequent on spinal concussion without external injury. These symptoms are chiefly psychic, and belong to the affection, mental depression and irritability occupying the foreground. The mental depression is accompanied by anxiety of mind, the patient's thoughts being always occupied, even in his dreams, with the accident, but is distinguished from pure melancholia both by the abnormal irritability always present, even in persons previously remarkable for their phlegmatic indifference to internal excitations, and by its hypochondriacal character. Severe intellectual disturbance is rare, but the author has seen a considerable degree of dementia with weakness of memory, also cases of hallucination, and even of traumatic insanity, requiring seclusion. Giddiness and cramps, varying between "petit mal" and true epilepsy, are not infrequent; but care must be exercised in diagnosticating such from purely hysterical attacks.

In the domain of the special senses, a mixture of hyperæsthesia and anæsthesia, or rather their juxtaposition, is the most frequent characteristic—*e. g.*, hyperæsthetic zones are found in the anæsthetic cutaneous areas; acuteness of vision is lowered, while the eye is extremely sensitive to light; the auditive faculty is lessened on the whole, while certain sounds react abnormally. Sensory anæsthesia is a very important subject, and observations have been made in Westphal's clinic with a view to distinguish genuine from simulated symptoms. The anæsthesia, *e. g.*, of an extremity, does not usually follow the course of the nerve implicated, but is spread over neighboring nerves, and is often overlooked. Typical girdle feeling, and a corresponding anæsthetic zone, are rare. Pains are frequent, and usually of the dull kind, especially headaches. Reflex excitability is more often lessened than increased. The tendons always react. Motility is almost always affected, the patients move about slowly, and without energy, the spine is maintained as fixed as possible,

sometimes reflex muscular symptoms hinder locomotion. The various ways of walking are remarkable, and may excite suspicion of simulation. There is no doubt that the usual signs here do not, as a rule, correspond with those dependent on "material diseases" of the central nervous system. When one foot drags, it is not carried as in hemiplegia. Tremor is frequent, but it resembles that of hysteria far more than that of sclerosis. Swaying on closure of the eyes is very frequent. As to the motor cerebral nerves, the speech suffers most, though there is no trace of aphasia. Speech is irregular and interrupted.

Arthralgia.

M. Charles Audry calls attention (*Revue de Chirurgie*, October 10, 1888) to a class of cases in which after an old stationary or subsiding arthritis, there are persistent local pains unassociated with any discoverable anatomical lesions.

He details three cases, describing the pain as characterized by its violence, its long duration, and its obstinacy. It is so severe that the patient prefers the loss of the limb, and, indeed, amputation was performed in all three of the cases—one patient dying of shock. Movement is accompanied by great pain, which is also excited by a mere touch of the skin. The alterations in the affected joints were simply those of old osteo-arthritis. The cause must be sought in the patient rather than in the disease, although amputation in two of the cases resulted in permanent cure.

Results of Major Amputations Treated Antiseptically.

Mr. Frederick Page (*Trans. Northumberland and Durham Medical Society*, February, 1888) reports in tabular form 282 major amputations for injury or disease, including 10 at the hip-joint and 6 at the shoulder-joint. The operations extended over a period of five years; the total mortality was 4.9 per cent., and there was but one death from pyæmia. During the previous four years and nine months the mortality was 10.6 per cent., notwithstanding the fact that there were only 2 hip-joint amputations as against 10 in the latter period. Mr. Page offers no explanation of this fact, so we may be permitted to assume that the lessened mortality of recent years is due to improved antiseptic methods.

Osteoplastic Resection of the Foot.

Dr. Ferdinand H. Gross reports (*Medical News*, October 27, 1888) an interesting case of the "Wladimiroff-Mikulicz osteoplastic resection," performed by him for caries of the astragalus and os calcis. The usual steps of the operation are very clearly described. The fixation dressing used by Dr. Gross was an anterior splint of heavy surgical felting, consisting of leg and foot pieces riveted to a long iron bar curved over the ankle region in such a manner as to leave an interval between the pieces of felting at that place. The limb was swung by means of rings on the anterior splint. The case ran an aseptic course, and firm union resulted with an admirable artificial pes equinus, the condition aimed at in these cases.

The Aseptic Use of Malgaigne's Hooks in Transverse Fracture of the Patella.

Dr. J. William White reports (*Medical Record*, October 27, 1888) a case of recent fracture of the patella treated by aspiration of the joint and the use of Malgaigne's hooks, applied during antiseptic irrigation, and enveloped in antiseptic dressings. The case ran an apyretic course, entirely without complication, and at the end of five weeks there was apparently good union, the line of fracture being barely discoverable. The dressings were removed and passive motion begun. This was followed at the end of another week by a separation of the fragments to the extent of three-eighths of an inch. The usefulness of the limb was but very slightly impaired. Dr. White reviews the general subject of the treatment of the fracture, and summarizes his views as follows: 1. The results obtained in transverse fracture of the patella by means of splints, plaster dressings, or bandages are extremely unsatisfactory owing chiefly to the absence of bony union, to the length of the fibrous band interposed between the fragments, and to the accompanying atrophy of the quadriceps muscle. 2. If further observation shows that the chief difficulty in getting good union lies in the separation of the fragments and the presence of blood and synovia, the treatment to be preferred will probably be some form of the prepatellar wire suture or the aseptic use of Malgaigne's hooks after aspiration of the joint. 3. If, however, as seems highly probable, the chief cause of non-union is found to be the presence between the fragments of portions of the aponeurotic tissue in front of the joint, it will be good surgery in all cases of recent fracture to cut down with the strictest and fullest antiseptic precautions and wire the fragments. 4. In old fractures, on account of the increased risk and the difficulty of the operation, the disability of the patient should be quite decided before wiring is recommended by the surgeon.

Irreducible Luxations of the Shoulder.

M. Charles Nélaton considers at length (*Archives Générales de Médecine*, October, 1888) the causes of irreducibility of old luxation of the shoulder, and arrives at the following conclusions: 1. That the principal obstacle in the reduction of old luxations of the shoulders is the retraction of the disused capsule. 2. That this retraction presents two phases: the first, during which the lips of the capsular opening tightly encircle the head of the bone, and in that way prevent its return to the glenoid cavity, which is free and ready to receive it; the second, in which the head cannot again enter the glenoid cavity, not only because it is thus held by the edges of the capsular rent which permitted its escape, but also because the articular cavity has become too small to receive it, owing to the narrowing and atrophy of the capsule. 3. That these two causes of irreducibility indicate two different methods of treatment: the first being amenable to traction and passive movement; the second requiring operative interference.

Polaillon has recommended an extensive subcutaneous tenotomy in such cases, followed after a few days, which permit of the healing of the cutaneous wound, by attempts at reduction during anæsthesia. He and M.

Molliére have had successes by this method, but M. Nélaton objects to it because this section in the dark may leave the strangulation of the head by the lips of the capsule unrelieved, because as fracture frequently accompanies these luxations small bony fragments may interfere with the action of the tenotomy; and because the method requires two successive operations. He recommends in his second class of cases, in which the capsule has narrowed, an incision similar to that used by his father in cases of resection of the shoulder, beginning at a point midway between the coracoid and the anterior angle of the acromion, and about eight centimetres in length. The deltoid and the supra- and infra-spinatus, and teres minor are divided, and the capsule opened. If there are anterior adhesions to the head of the acromion, these are separated by a curved elevator, and the head is replaced in the glenoid cavity. The capsule, tendons, and deltoid are then reunited by catgut sutures.

M. And. Castex details (*Revue de Chirurgie*, October 10, 1888) six cases of reduction of old luxations of shoulder by means of a method which consists essentially in using the semiflexed forearm as a lever, and causing the head of the humerus to execute the movements of external and internal rotation, flexion and extension, abduction, adduction, and circumduction. In this way he claims that in the majority of cases all adhesions may be broken up, the various forms of violent traction by pulleys, etc., may be dispensed with, and the head of the bone replaced more certainly and more safely. If a first attempt fails, he recommends making the second, after an interval of three days, the consecutive inflammation producing softening of the adhesions.

OTOLOGY.

UNDER THE CHARGE OF

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Consecutive Otitis and Facial Paralysis in Consequence of a Revolver Shot in the External Meatus.

Ladislaus Farkas, of Buda-Pest (*Archiv f. Ohrenheilk.*, Bd. 27, 1888), gives an account of a man, forty-three years old, who, with suicidal intent, shot himself in the right ear with a revolver. Immediately there ensued facial paralysis on the right side, and a copious sero-purulent discharge set in from the right ear, but the latter gradually diminished. Besides, the patient complained of a dull, hissing sound in his ear, vertigo upon turning his head, and hemicrania on the right side. Taste and smell were unaltered. Three weeks after the injury, the patient suffered from a pharyngeal abscess, after the rupture of which it was supposed the bullet escaped, as when first seen and operated upon, over fifteen months after the injury, only a few pieces of

necrotic bone and small crumbs of lead were removed. In a few days, under iodoform dressings the wound healed. Some years later the patient was found to be entirely well. It is of interest to note that in this case the facial nerve, under pressure by pieces of necrotic bone, for fifteen months, resumed its functions as soon as this pressure was removed. The headache and the vertigo, with all unsteadiness of gait, disappeared after the operation.

Impeded Nasal Respiration and Purulent Otitis Media.

Dr. A. Barth (*Berlin. klin. Wochenschr.*, 1888, No. 2; *Archiv f. Ohrenheilkunde*, Bd. 27, August, 1888) demonstrates that sometimes impeded nasal respiration can induce either an acute or a chronic purulent inflammation of the middle ear. Thus, the swelling induced in the nares by a galvano-cauterization has induced an inflammation in the ear; on the other hand, a chronic otorrhœa will often rapidly disappear after the chronically stopped nose is made free.

The subject, while not new, is of great importance, and should be kept in mind in the present era of heroic nasal treatment by the galvano-cautery.

Reflex Epilepsy from Ear Disease.

Emil Pins, of Vienna (*International Clinical Observer*, 1888, No. 23, and *Archiv f. Ohrenheilkunde*, Bd. 27, 1888), contributes an article of interest on the relation of the organ of hearing to epilepsy, and refers to a case of reflex epilepsy given by Boucheron (*Bulletin Médical*, No. 75, 1887), in which severe epileptic attacks were checked by the cure of a catarrh of the Eustachian tube and middle ear. There are mentioned cases of transitory epilepsy, which occur with marked cerebral symptoms, in consequence of purulent catarrh of the middle ear, and caries of the petrous bone, which the author refers to an affection of the central organ, since he explains them like Jacksonian epilepsy, viz., as originating in either a lesion of the brain or its meninges. He then cites a case of epilepsy excited reflexively from ear disease, observed in a young, hysterical woman, who had a polypus in the left ear, and who became extremely pale, nauseated, dizzy, and suffered from palpitation of the heart whenever the polyp in the ear was touched with a probe, so that all examination and treatment had to be stopped. Finally, the patient came one day with her mind made up to endure everything, and have the polypus removed. The polyp was then examined with a probe, and removed with the Wilde's snare without interruption. Scarcely was the operation finished before the patient uttered a loud cry, fell senseless to the floor, foamed at the mouth, manifested heavy convulsions of the entire body, and in a few minutes fell into a profound sleep. Upon waking, she vomited several times, and could recall nothing of what she had gone through. The patient had never before suffered from an epileptic attack, and has not had another, nor is there any hereditary neuropathic weakness.

The writer finally urges the necessity of bestowing more attention to the organs of hearing in epileptics than has heretofore been the case—possibly to the injury of the patients. For just as the sexual organs, old wounds, etc., have been examined for the causes of epilepsy, so should the organs of hearing not be disregarded in this connection.

Abscess in the Left Temporal Lobe without Disturbance in Hearing and Speech.

H. Senator, of Berlin (*Charité Ann.*, vol. xiii., 1888; *Archiv f. Ohrenheilkunde*, Bd. 27, 1888), observed in a post-mortem examination of a man who had died of suppurative hepatitis and consecutive peritonitis, a small abscess the size of a walnut, filled with thick, yellow, odorless pus, in the left temporal lobe. It was placed so deep that the cortical substance was untouched by it. The abscess possessed several irregular offshoots which extended above and below in the temporal convolutions, and nearly reached the cortical substance, but the parts thus touched appeared only slightly reddened. A second, small abscess, the size of a pea, was found in the semi-oval centre of Vieussens; otherwise the brain was free from disease. The abscess in the temporal lobe was in that part of the brain the destruction of which is usually followed by sensory aphasia (Wernicke) or word-deafness (Kussmaul), but in this case had not betrayed its existence by such symptoms. During his illness the patient had complained of only intense tinnitus in the left ear, but examination of the ear revealed nothing abnormal.

Aural Reflexes, and an Otospinal Reflex Centre in the Cervical Medulla.

Gellé contributes an elaborate paper on the above-named topic; and gives an account of his apparatus and experiments whereby he arrives at the following conclusions:

1. In binaural audition, the movements of accommodation, *i. e.*, the muscular action of the motors in the transmitting apparatus of the middle ear, are simultaneously and similarly set in action.

2. By the forces acting upon one ear, similar impression is made on the other; for an experimentally produced movement in one ear provokes a similar active reflex in the other ear:

3. *E. g.*, if a vibrating tuning fork is held in front of the free ear, while air is compressed by means of an air bag arranged for the experiment connected with the opposite ear, the subject perceives a diminished sound of the fork due to the tension in its conducting parts which has been evoked reflexively, thus proving the existence of binaural reflexes.

4. This method of examination demonstrates the mobility of the stapes, the activity of the motors, and their alterations; it is therefore an important addition to aural semeiology.

5. When the ears are healthy and the hearing normal in both, the synergetic effect on the accommodation of the ear disconnected with the apparatus of experiment, may be wanting, the cause in such cases is extra-aural; it is, in fact, the *reflex centre* in this instance which fails to unite the two organs and associate their movements.

6. Clinical experience shows that the disappearance of the aural reflex in such cases coincides with lesions in the cervical cord (five times in seven).

7. Clinically we may assume from the presence or the absence of these binaural reflexes, the presence or absence of lesions in the cervical cord; their disappearance renders diagnosis clear.

8. These reflexes do not appear to have any connection with pupillary reflexes; they remain when the aural have ceased, and *vice versa*. Nevertheless it seems shown by the facts that binaural reflexes are more easily influenced by hypertrophic cervical pachymeningitis.

9. Investigation of reflexes of binaural accommodation is related to the study of affections of the medulla.

10. The centre of reflex movements of binaural accommodation is situated in the cervical medulla, as seen by its abolition in the course of maladies of this part of the spinal cord.

DISEASES OF THE LARYNX AND CONTIGUOUS STRUCTURES.

UNDER THE CHARGE OF

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Œsophagotomy for Foreign Body in the Larynx.

A case of œsophagotomy is reported (*Albany Med. Annals*, October, 1888), performed three days after a shawl-pin had been swallowed, but with failure to find the foreign body. The bristle probang had been tried ineffectually beforehand. Twenty-one days after the operation, during a violent fit of coughing, a shawl-pin two and one-quarter inches long, with a head of black jet one-half inch in diameter and one-fourth inch thick, was expectorated from within the larynx where it had been lodged. It is but fair to state that on physical exploration of the œsophagus, obstruction had been encountered at about its middle third, which had caused considerable difficulty in freeing the olive-shaped tip of the sound. We miss, however, any reference to laryngoscopic inspection despite the mention of a troublesome cough commencing shortly after the accident, and which gave great pain both before and after œsophagotomy, and which apparently continued until after the expectoration of the foreign body. Surely such a large body as this pin would have been readily detected in the larynx; and such detection, before subjection to œsophagotomy, would have spared the patient a useless operation.

Nasal Aprosexia.

Under the title aprosexia, Prof. Guye, of Amsterdam, groups (*Deutsch. med. Woch.*, 1887, No. 43; Oct. 4, 1888, No. 40), a series of cases of disturbance of intellection due to intranasal disease, the chief symptom of which is inability to fix the attention upon a specified subject. The other symptoms are marked forgetfulness and headache. The headache may be a continuous or an intermittent sensation of pressure, or it may be an intense hemicrania occurring in the mornings especially. Its pathogenesis is referred to the connection described by Key and Retzius between the subdural lymph spaces

of the brain and the lymph vessels of the nasal mucous membrane; as well as to the occasional interruption to the loss of water through the nasal mucous membrane when the passages are more or less obstructed. Aprosexia is, therefore, regarded as a retentive process hindering the elimination of the products of tissue-changes. In addition there are vaso-motor disturbances due to the disturbances of nutrition of the nasal mucous membrane. The cases which seem to indicate this are those in which, during the attack, a circumscribed congestion of the skin is perceptible, especially at the root of the nose. Guye distinguishes three forms of aprosexia, physiological, neurasthenic, and nasal, with various intercomplications and combinations. Four cases of nasal aprosexia are narrated in detail, the patients being males between fourteen and twenty-six years of age. By topical treatment of the various morbid intranasal conditions present, cures were effected.

The Comparative Merits of Tracheotomy and of Intubation in the Treatment of Croup.

At the meeting of the American Surgical Association, September 20, 1888, Dr. George W. Gay discussed this subject (*Boston Med. and Surg. Journ.*, Oct. 11, 1888) in a very thorough manner, for due consideration of which we must refer to the original paper. While fully appreciating all that intubation has done and may do in croup, he does not believe that either procedure can supplant the other in their respective spheres. He recognizes that, while the proportions of recoveries are about the same, the proportional recoveries at an early age, say under two years, are much larger in intubation.

Laryngectomy.

Dr. Vincenzo Omboni reports (*Annali universali di Med. e Chir. Milano*, Agosto, 1888) a case of extirpation of the larynx with the first ring of the trachea, and a portion of the pharynx and œsophagus for epithelioma. The patient was a male, forty-six years of age; the operation was performed June 28th, and death ensued August 8th. The case, and the operative steps, are reported in minute detail, and the report is followed by some general considerations on the operative procedure.

Fetid Desiccative Tracheitis.

Under the name tracheal ozæna Luc details (*Arch. Lar. et Riv.*, Feb. 15, 1888) three cases of fetid tracheitis following fetid ozæna in two females and one male. Viscid crusts adhered to the walls of the trachea which, when expectorated on rising in the morning, were analogous in odor, in color, in consistence, and in microörganisms with the crusts of ozæna.

Paralysis.

Vilato (*Gaz. Méd. Catalana*, March 15, 1888; *Rev. Men. de Lar.*, October, 1883) reports a case of dysphonia, paralysis of the right half of the palate, of the tongue, of the larynx, and of the upper and lower limbs, in a girl seven years of age. The diagnosis was general paralysis following diphtheria.

Radical cure was obtained by several *séances* of hypnotism. Lacoavret justly attributes the paralysis to hysteria.

Phlegmonous Sore Throat.

Hager (*Berlin. klin. Woch.*, No. 12, 1888; *Rev. Men. et Lar., etc.*, October, 1888) reports a case of recovery after more than a months' illness. There was a sudden angina with delirium, and without perceptible cause. The inflammation extended to the œsophagus, stomach, periœsophageal tissue, and the larynx, the engagement in the latter being so severe as to render prospective tracheotomy imminent for a short period. There was then a general septicæmia from resorption of the pus formed in the periœsophageal connective tissue.

The longest survival in Senator's group of cases was sixteen days.

A Case of Congenital Membranous Occlusion of the Larynx Requiring Section of the Thyroid Cartilage.

Occlusion of the larynx by a web of membrane between the vocal bands is usually remediable by intralaryngeal surgical procedure. An exceptional instance, in which unusually severe measures were required, is reported by Drs. Seifert and Hoffa (*Berlin. klin. Woch.*, March 5, 1888). A congenital web in a female sixteen years of age was so tough that the point of a knife became broken off in an attempt to incise it intralaryngeally. It also resisted attempted division with an electric cautery. External access was then decided upon. After incision of the skin, an enlarged thyroid gland was detached by dividing the fascia after Bose's method, and then pushed downward. High tracheotomy was performed, and Trendelenberg's canula inserted, and then the crico-thyroid membrane was divided horizontally. A probe-pointed knife was pushed up and behind the web, which was then divided from behind forward, and the thyroid cartilage was divided in the middle line at the same time. On separating the wings of the cartilage, the occluding tissue was found to be membranous only in its posterior portion. Anteriorly it formed a curtain which passed obliquely forward, and which was adherent to the anterior wall of the larynx about a finger's breadth below the vocal bands. This was resected so as to free the lower portion of the larynx, and restore the vocal bands nearly to their normal configuration. Cartilage, pericardium, musculature, and skin were secured in position with catgut sutures. An ordinary canula was retained in the trachea until the fourth day. On the twelfth day cicatrization was complete. Two weeks later, the anterior third of the vocal bands had become readherent. This was overcome by systematic dilatation with Schrœtter's bougies; but continuous dilatation was still necessary, although the voice had become good; a constant disposition remaining to readhesion at the anterior commissure.

Cocaine in Epistaxis after Sneezing.

Dr. Ziem (*Deut. med. Woch.*, October 4, 1888) reports a case of severe bleeding from sneezing after removal of an intranasal growth, in which tampons failed to arrest it, and were blown out in the paroxysms. A tampon

saturated with a ten per cent. solution of cocaine arrested both the bleeding and the sneezing.

Camphoric Acid in Catarrhal Inflammations.

Dr. Max Niessel (*Deut. med. Woch.*, October 4, 1888) confirms the observations of Reichert and of Fürbringer in the usefulness of camphoric acid in catarrhs of the mucous membranes. He has used it internally and topically by pencilling, by gargles, by spray, and by inhalation. Lozenges containing from one to two grammes of the crystals of camphoric acid at night had a good influence on the night-sweats of phthisis. Solutions were made with a five per cent. solution of bicarbonate of sodium added until the acid dissolved and evolution of carbonic acid gas ceased, the proportion of the alkali to the acid being about three to four. This was found useful in mild laryngeal and nasal catarrhs, after daily pencillings for eight to fourteen days. In the severer cases and in tuberculous cases no benefit had been observed apart from improved subjective feelings.

Inhalations in phthisis and in chronic bronchitis with a one per cent. alkaline solution were more favorable. The irritation was lessened, and the expectorations were facilitated in nearly all the patients. Much could not yet be said of the value of gargles; a more prolonged observation being necessary.

A Tracheal Canula for Patients with Goitre.

Dr. Fritz Salzer describes and illustrates (*Wien. klin. Woch.*, October 18, 1888) a comfortable canula for patients with goitre, who often have reason to complain of the pressure produced by the ordinary canula. In the absence of a canula especially constructed for the purpose, he has used with entire satisfaction an extemporaneous contrivance made as follows: A hard-rubber tube, of proper calibre and fifteen and a half centimetres in length, is bent nearly rectangularly at a distance of five centimetres from one extremity. This bent portion is intended for the trachea, and the horizontal arm for the track through the tissues in front of it. The superior surface of this horizontal arm is to be pierced horizontally with a series of pairs of small holes eight millimetres apart. An ordinary canula plate is passed over the outer extremity of the canula, and is held in place with a safety-pin passed through one of the pairs of perforations, at any point that may be desired, and thus its position is readily changed from time to time as tumefaction may require. The shape of the canula is similar to that of the outer canula of Mr. Durham, and the perforations and safety-pins are substituted for the movable collar carrying the plate.

A Case of Satisfactory Phonation without the Aid of an Appliance after Laryngectomy.

Dr. Hans Schmid reports (*Deutsche med. Woch.*, October 18, 1888) a case of a man upon whom laryngectomy, including removal of the epiglottis, was performed for carcinoma of the larynx by Dr. Ziegel, October 28, 1886. Some doubt is expressed as to the accuracy of the diagnosis, but that is not the point in question. In the spring of 1888, the patient, exhibited August 4th

to the *Greifswalder medicinischer Verein*, presented himself to Dr. Schmid, who had attended him a year previously, with a loud and distinct, though monotonous, voice. On examination the muscles of the cheek were found to have undergone great development; the dorsum of the tongue was very high in the mouth; the tonsils large and projecting; the palatine folds large, projecting, and lustrous. These structures seem to have acquired the power to become so pressed together as to form a sort of adventitious glottis. Dr. Schmid raises the question whether the unexpected and apparently fortuitous results in this case may not be an indication for awaiting the results of nature after laryngectomy, in preference to the early use of a reeded canula or artificial substitute for the phonal portion of the larynx. We are compelled to forego a number of interesting details.

Ecchondroses of the Septum Narium and their Removal.

Carl Seiler (*Medical Record*, February 18, 1888) refers simply to those excrescences on the surface of the cartilaginous plate, and to which he attributes an important *rôle* in the production of the symptoms of nasal catarrh. He has witnessed their development upon the perfectly normal septum in consequence of pressure upon them of turgescent tissue over the anterior extremity of the lower turbinated bone, and he has seen a resultant tendency of the nose to bend over to the opposite side. He has seen them result from irritation of the finger-nail from scratching the septum in picking off crusts. He, therefore, concludes that these simple cartilaginous excrescences are due to local irritation of the cartilaginous septum primarily, and of the perichondrium secondarily. This result he believes to be favored by the peculiar histological structure of the hyaline cartilage, to which the blood is supplied by loops of vessels dipping into its substance from the perichondrium; and by the cell nutrition being carried on by osmosis from one to the other without the intervention of a capillary network of bloodvessels. Hence, localized increase of blood supply to these loops must necessarily give rise to a more rapid cell division and proliferation of the intervening cartilage cells than is demanded to supply the waste by cell death, and thus localized increase of cartilage tissue must result therefrom. Dr. Seiler finds that when these cartilaginous excrescences have existed for some time they are apt to become ossified or calcified in the centre.

These ecchondroses require operative removal, but previous thereto the existing hyperæmia of the mucous membrane must be reduced to lessen the shock from the operation, and to facilitate the healing of the wound. The operative procedure is preceded by the application of a four per cent. solution of cocaine on cotton maintained in contact for about ten minutes. A fine cambric needle is then inserted to ascertain whether sensibility has been destroyed, and to determine the presence or absence of ossification in the excrescence. The excrescence, if cartilaginous, is then removed with a slightly curved double-edged knife applied from below upward for about half the extent of the excrescence, and then from above downward. Any hard centre is cut through by tapping the handle of a chisel applied to that portion. If the excrescence is an ossified one, a grooved director is passed beneath it, and the dull point of a plough-shaped knife is pushed along the groove, much in

the same way in which a wood-carver uses a similar tool. As soon as the progress of the knife is obstructed, a gouge with a slanting edge is substituted and driven forward with a few blows from a mallet. When the hard tissue has been cut through, a pair of bent scissors is employed to sever any portion of mucous membrane remaining attached above.

DERMATOLOGY.

UNDER THE CHARGE OF

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REATMENT OF LICHEN RUBER PLANUS.

In the *Berliner klinische Wochenschrift* of September 10, 1888, HERXHEIMER reports several cases of lichen planus in which good results were obtained by the local application of chrysarobin. The author, while admitting the favorable effects from the use of Unna's salve of corrosive sublimate and carbolic acid, states that in his experience its use has occasionally given rise to an eczema. The chrysarobin is applied either as a paint in the gutta-percha solution, ten per cent. strength, or in the form of an ointment, the former being the preferable method. The solution is painted over the affected areas twice weekly. The unguent is naturally more positive in its action, but not so much so as to compensate for its disadvantages; it is to be recommended, therefore, only in the most obstinate cases, or those in which a rapid result is especially desirable.

DERMATOLOGICAL NOTES: ACUTE MULTIPLE SYMMETRICAL GANGRENE; BULLOUS ERUPTION DUE TO QUINIA.

A case of the former and a case of the latter are reported (*Journal of Cutaneous and Genito-urinary Diseases*, September, 1888) by ELLIOTT. In the case of acute multiple symmetrical gangrene, the first symptoms were noted a few days after prolonged fatiguing work, and consisted of three or four pin-head to pea-sized, painless, circular, dry, grayish-black lesions, defined by a slightly elevated, red border, and seated on each buttock immediately over the acetabula. For several days new spots continued to appear symmetrically on both buttocks, and some increase in size was noted in the earlier lesions. There were no subjective symptoms, but around the larger spots for a variable distance complete anæsthesia was noted. The destruction of tissue in the most conspicuous lesions extended to the subcutaneous connective tissue.

Pressure upon the lowest spinal region produced considerable pain. The case was treated on general principles, recovery being complete in three or four weeks. The patient's general condition had remained throughout satisfactory.

In the case of the bullous eruption from quinia, it was noted to follow a five grain dose, and the same phenomena had presented from the same cause on two different occasions. The cutaneous symptoms occurred an hour after the drug had been taken, consisting for the most part of variously sized blebs seated upon the hands, wrists, feet, lips, tongue, and roof of the mouth. The trunk remained free. The eruption retrogressed rapidly.

The Kreuznach Mother-liquor and Calcium Chloride in the Treatment of Skin Diseases.

In the *Centralblatt für die Gesammte Therapie* for July, 1888, Lier gives his experience with the use of the Kreuznach mother-liquor in the external treatment of various cutaneous diseases. Its efficacy, according to this writer, depends upon the calcium chloride it contains; this latter used in the same way giving similar results. Two effects may be produced by these applications, a primary or superficial, and a secondary or deep. The former, which is especially adapted to the treatment of moist eczema, impetiginous eruptions, erythema, and psoriasis, is obtained by cool baths of short duration, and the application of a paste, consisting of terra silic and zinc oxide, āā ℥iss; vaseline, ℥v; and mother-liquor, ℥viij. The bath is not to exceed a temperature of 90°, and may be with or without the addition of the mother-liquor. For the deeper effects, baths of the temperature of from 93° to 99°, containing a large quantity of the mother-liquor and of longer duration, and also by the use of compresses of the same, pure or diluted; this form of treatment is more especially useful in all forms of cutaneous disease in which infiltration or induration is a prominent feature.

Lactic Acid in Tuberculous Ulceration and Lupus.

Rafin records (*Lyon Méd.*, July 8, 1888) several cases of tuberculous ulceration and lupus in which lactic acid was employed with favorable results. In the two cases of tuberculous ulcer of the tongue, and in two cases of lupus involving portions of the face, its action, while slow, was continuous; complete cure resulting in the former cases in six weeks; in the latter, in several months. It was employed in eighty per cent. strength.

Horny Growth on the Dorsum of the Hand.

Ellison reports (*Lancet*, Sept. 15, 1888) an interesting case of cornu cutaneum. The growth was of horny consistence, measuring at the widest part of its base an inch and a half in diameter, and at its free end about three-fourths of an inch. It was somewhat curved and three inches in length. It was freely movable with the integument, and was seated over the tendons of the extensor communis digitorum close to the metacarpo-phalangeal joints of the fore, middle, and ring fingers of the right hand. The growth had its origin in a wart.

Severe Eruption of Bilateral Herpes Ophthalmicus.

Under this head a case is reported (*Lancet*, July 7, 1888) occurring in the course of chronic pneumonia with diffuse interstitial nephritis, by Robertson. While under observation for the latter disease, a herpetic eruption appeared, ushered in quietly, and without pain or much itching. The vesicles appeared in a thickly set patch under each eye, extending to the external canthus, and internally well up the bridge of the nose on each side; around the palpebral margins, amongst the cilia, and thickly set on each eyebrow; several on each frontal region; several vesicles behind each ear; three on the right helix and over the upper lip; one on the nose over the bridge, and one on the right side of the tip of the nose. There was soon associated with the eruption considerable cutaneous disturbance, with swelling of the eyelids to absolute closure. The eruption was characterized by the usual multiformity of the herpetic lesion—here vesicular, there bullous, and again pustular, all present simultaneously. The eruption under the lower lids and on the eyebrows broke down on the third day with the formation of foul ulcers discharging freely. Throughout the attack no ocular symptoms of any gravity appeared. The conjunctivæ became suffused slightly. The attack lasted three weeks.

A Case of Urticaria Pigmentosa.

Mibelli contributes (*Monatshefte für praktische Dermatologie*. No. 18, 1888) the notes of a case of this rare affection. Briefly stated, they are as follows: Some days after birth, a general icterus developed, which, in the course of a few weeks, had disappeared. Two weeks later, without precursory symptoms, a more or less extensive erythematous eruption showed itself, consisting of small, closely set red spots. This lasted about a month, and was unaccompanied by any systemic disturbance. A few months later a similar rash presented, and as the bright pink or red tint faded, a brownish coloration was noted. When first seen by Mibelli, the child, a female, was a year old, and at this time the entire body was covered with numerous pigmented, slightly elevated spots. These from time to time underwent transitory change, on certain days, or at different times on the same day, becoming much redder and more prominent. The case remained under observation for several months with practically no change in its general features.

Kraurosis Vulvæ.

Six cases of this curious affection are reported (*Monatshefte für praktische Dermatologie*, No. 19, 1888) by Janovsky. In their symptoms they correspond with the description of the disease as first given by Breisky in 1885. The affection involves more especially the labia minora, the inner side of the labia majora, in fact the entire vestibule region. The affected skin and mucous membrane appear dry and whitish, the epidermis often thickened, and often showing enlargement of the small vessels. The appearance suggests a resemblance to leucoplakia buccalis. As a secondary result, atrophy takes place, at times sufficiently great to compromise more or less coitus and childbirth. Janovsky's cases throw little, if any, light upon the question of the etiology of

the disease. Treatment also, as in Breisky's experience, appeared without result.

[A paper on this rare disease was read by Heitzmann at the last meeting of the American Dermatological Association, the author presenting a method of treatment having almost invariably a curative result. As soon as published, an abstract of the same will appear in these columns.—EDS.]

REPORT ON CULTIVATION EXPERIMENTS WITH THE BACILLUS LEPRÆ.

BEAVER RAKE has made a series of experiments (*British Medical Journal*, August 4, 1888) with the bacillus lepræ, and with the following conclusions: 1. At a tropical temperature, and on ordinary nutrient media, I have failed to grow the bacillus lepræ. 2. In all animals yet examined I have failed to find any local growth or general dissemination of the bacillus after inoculation, whether beneath the skin, in the abdominal cavity, or in the anterior chamber. Feeding with leprous tissue has also given negative results. 3. I have found no growth of the bacillus lepræ when placed in putrid fluids or buried in the earth.

OBSTETRICS.

UNDER THE CHARGE OF

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THE CAUSE OF OCCIPITAL PRESENTATIONS.

FOULIS (*Edinburgh Medical Journal*, September and October, 1888) concludes from the study of sections through the pelvis and abdomen, that the continual movements of the child's lower limbs in extension, cause the head-downward position. The prevalence of the situation of the occiput and back on the mother's left side results from the proportionally large size of the liver in the pregnant woman, which fits over the uterus like a cap, affording firm resistance to the impact of the child's feet.

TWO RECENT CASES OF SYMPHYSIOTOMY.

MORISANI (*Italian Obstetrical and Gynecological Society*, September 3, 1888) reported the case of a rachitic girl, aged fifteen, who was brought to his clinic after three days' ineffectual labor-pains, the fœtus presenting in the first position of the vertex, the left arm prolapsing; the *conjugata vera* measured 2.73 inches. Symphysiotomy was done, recovery following. The second case was a patient aged twenty-five, whose pelvic *conjugata vera* measured 2.8 inches; symphysiotomy was performed at the beginning of the ninth month, successfully. Morisani divided this operation, in Italy, into three periods; the first comprised 80 operations; the second, 50; the third (1881–1886) had led to improved results through antisepsis, and warranted the following deduc-

tions: Estimating the biparietal diameter of the fœtal head at 3.7 inches, and the increase in the *conjugata vera* gained by the operation at 0.85–0.97 of an inch, it follows that 2.6 inches is the shortest *conjugata vera* justifying the operation; when this diameter is 3.12 inches, a cautious attempt at forceps delivery is justifiable, if this fails, symphysiotomy is indicated. The symphysiotomy knife is passed from behind forward, to avoid injuring the bladder.

CURRETTA advocated the direct suture of the pubic bones, in place of a retention-bandage.

AN IMPROVED METHOD OF MANAGING THE THIRD STAGE OF LABOR.

HART (*Edinburgh Medical Journal*, October, 1888) believes that the placenta and membranes separate when a disproportion exists between their area and their surface of attachment; this is slight, as the trabeculæ are microscopic in size. The placenta, then, separates in the third stage of labor after the expulsion of the child, and is expelled after its separation by the after-pains; manipulation cannot separate the placenta, but can aid in expulsion. His treatment is as follows: Ergotin and manipulation are used to secure uterine retraction and empty the intervillous spaces. The child is allowed to cry freely before the cord is ligated; the placental portion of the cord drains thoroughly before it is tied. These measures hasten the establishment of the necessary disproportion between the placenta and its surface of attachment, and favor the rupture of the trabeculæ. When the uterus becomes smaller, the placenta is separated, and, if necessary, may be expressed. The placenta should not be separated by efforts at expression; the obstetrician should maintain the tonicity of the uterine muscle, allow the uterus to separate the placenta spontaneously, and reserve expression for the expulsion of the placenta.

THE TREATMENT OF POST-PARTUM HEMORRHAGE BY COMPRESSION OF THE ABDOMINAL AORTA THROUGH THE UTERUS.

In addition to the usual means of checking post-partum hemorrhage, SÉJOURNET (*Annales de Gynécologie*, October, 1888) has obtained prompt results by compressing the abdominal aorta with the hand inserted into the uterus. He reports five cases of hemorrhage which did not yield to ordinary means, in which he promptly checked bleeding by this procedure. With antiseptic precautions this treatment is innocuous. His patients recovered well.

A PLEA FOR THE GENERAL ADOPTION OF ANTISEPTICS IN OBSTETRIC PRACTICE.

CULLINGWORTH, in an address at St. Thomas's Hospital, urged upon English obstetricians the uniform adoption of antiseptics, quoting the statistics of England and Wales, which showed no diminution in death-rate during the last twenty years. He employs and commends bichloride of mercury as an antiseptic, and uses powders, each of which contains ten grains of bichloride with fifty grains of tartaric acid and one grain of cochineal, to be added to a pint of water to make a solution of 1 to 1000. As a lubricant he considers

glycerine and bichloride, 1000 to 1, convenient and most efficient.—*British Medical Journal*, October 6, 1888.

Improved Catheters for Intra-uterine Injections.

Several efforts have been recently made to improve upon the Bozeman intra-uterine catheter commonly used. These efforts have been directed to securing free return flow, and simplicity and ease of construction and apposition permitting thorough cleanliness.

Kelly (*The Medical News*, March 14, 1888), Piscasek (*Wiener klinische Wochenschrift*, 1888), and Krenet (*Centralblatt für Gynäkologie*, No. 39, 1888) have altered Bozeman's catheter for this end. The elements in these alterations of practical value consist in inclosing a central afferent pipe by a large efferent pipe, split longitudinally and pierced by apertures for the entrance of the return flow. The tip should possess lateral apertures only and be perfectly rounded; the fastenings be as simple as possible, and each part available for ocular inspection if possible. In view of the dangers attending the intra-uterine use of mercury, the catheter may be made of metal, not attacked by carbolic acid or thymol. Hard rubber is an excellent material for those employing only mercurial douches.

An Epidemic of Puerperal Sepsis Originating in the Virus of Angina.

Pfannestiel (*Centralblatt für Gynäkologie*, No. 38, 1888) reports four cases of puerperal sepsis at Breslau, ending in death within from six to eleven days. The lesions in these cases were diphtheritic endometritis, purulent peritonitis, and their accompaniments. By exclusion the cause was found to be the virus of tonsillar angina, conveyed by a midwife whose daughter was ill with this disease.

Bacteriological study of the cases led to the conclusion that a puerperal streptococcus cannot be differentiated; the septic germ of phlegmon, of erysipelas, and of affections of the pharynx, when transplanted upon the genitalia of the parturient, causes puerperal sepsis.

The Quarterly Report of the Edinburgh Maternity.

Martin and Havelock report 80 births in the wards, and 181 births in the patient's homes. These cases were without septic mortality. 3 mothers died from eclampsia; 1 from placenta prævia and pneumonia; 1 from pulmonary embolism; 2 from hemorrhage. Perineal tears were closed with silkworm-gut and catgut. Cocaine pessaries were found to be ineffectual to relieve pain while the cervix was dilating; they seemed partially to anæsthetize the perineum. Eclampsia was treated by hot packs, cathartics, diuretics, stimulants, and sedatives, with the rapid completion of labor. Barnes's dilators and forceps were most efficient.—*Edinburgh Medical Journal*, October, 1888.

A Demonstration of the Deglutition of Liquor Amnii by the Fœtus.

Mekus (*Centralblatt für Gynäkologie*, No. 42, 1888) has met with a demonstration of the belief that the fœtus swallows the liquor amnii in the case of

a child who could not retain fluid swallowed; it died of inanition and was poorly developed at birth. On examination, the œsophagus was impervious at its middle. It was noticeable that the liquor amnii was very abundant at birth. The case is virtually a ligation of the œsophagus in the living fœtus; result, a poorly developed and nourished fœtus, no evidence of liquor amnii in the digestive tract, and an abnormal abundance *in utero*.

Partial Paralysis of the Upper Extremity following Breech Presentation.

Schultze (*Archiv für Gynäkologie*, Band 32, Heft 3) reports the case of a girl, born in breech presentation, who suffered from complete paralysis of the greater portion of the right deltoid, biceps, brachialis internus and supinator longus, the infra-spinatus, and supinator brevis. The right arm had presented above the head and behind the neck, and the child had been extracted by a midwife with difficulty.

Schultze considers that violence had been done the brachial plexus at the point above the clavicle where Erb has described a point at which an electrode, with the faradic current, produces contraction in the muscles named.

Acute Tuberculosis Transmitted from Mother to Nursing Child.

Thomson (*Edinburgh Medical Journal*, October, 1888) reports the case of an infant whose mother died of pulmonary tuberculosis. The child survived but a few weeks. The mother's breasts and nipples were not tuberculous, and the child's abdominal viscera were but very slightly affected. The mother had been noticed frequently coughing in the child's face, and its lungs were extensively diseased, particularly at the root of the lung, as is usual in children. Eight weeks before death there was an entire absence of physical signs of the disease in the child.

GYNECOLOGY.

UNDER THE CHARGE OF

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Acute Œdema of the Skin attending Menstruation and the Climacteric.

Börner (*Med. Chir. Rundschau*, July 1, 1888) in a short paper on this subject quotes from an article of Quincke's, who described a peculiar form of acute œdema of the skin which had long been known, although its relation to the sexual organs had not previously been understood. Börner cites a number of cases which seem to prove that there is a direct causal relation between this phenomenon and the menstrual and climacteric periods. The swellings were situated on the face and extremities, and disappeared after a

few hours without leaving any traces of their presence. This occurred in nervous, but not always in anæmic, patients. The writer thought that they were due to local vaso-constrictor paralysis, or to reflex irritation of the vaso-dilators. The congestion became so extreme as to result in effusion. It was simply a local expression of the general nervous disturbance. Riehl, who had made similar observations, was of the opinion that the nervous impulse was of central origin. Börner thought that acute œdema at the menstrual period was due to a reflex influence transmitted from the genital organs to the nerve-centre, and then to the peripheral bloodvessels within a certain area.

The Origin of Epithelial Growths of the Ovary.

Nagel (*Archiv für Gynäkologie*, Bd. xxxiii. Heft 1) presents the results of his studies of the epithelial ingrowths in the ovary, described by Waldeyer, de Sinéty and Melassez, and others. Since these may be seen in every ovary which is the seat of chronic inflammation, he arrives at the conclusion that they are directly due to such inflammation, and that they are to be regarded as the beginnings of epithelial neoplasms, especially cystomata.

On the surface of an ovary which has undergone interstitial changes there are seen various furrows, resulting from contraction of the fibrous stroma; the germinal epithelium normally covering the ovary dips down into these furrows, forming the epithelial tubes which were formerly supposed to be of fœtal origin. If the edges of such a depression become adherent, a closed cavity, or pseudo-cyst, is formed containing a fluid secreted by the lining epithelium. In every diseased ovary these small cysts are found just beneath the albuginea, and are mistaken for new-formed Graafian bodies, from which, however, they may be distinguished by noting the following points:

1. The pseudo-cysts are lined with a single layer of regular cubical epithelial cells, while the cells lining a Graafian vesicle are arranged in several layers; the latter also contains an ovum.

2. The cysts never have a proper wall; their cell-lining is directly in contact with the ovarian stroma, while the ovisac has a limiting membrane consisting of two distinct layers.

3. The ovisacs have a regular oval shape, while the cysts are irregular and have outgrowths, or secondary cysts.

Since the cell-tubes have no limiting membrane, there is nothing to prevent them from pushing their way deeply into the stroma and throwing out processes. There is no ground for supposing that these ingrowths are identical in character with Pflüger's tubes; in fact, the former are observed only in chronically diseased ovaries, and never in the fœtal gland. The writer having shown that the cell-processes described by him are identical with the ingrowths observed by Waldeyer, which represent the early stage of epithelial neoplasms, infers that the latter must have a similar origin, *i. e.*, they are due to chronic inflammation of the ovary.

The Diagnosis of Chronic Salpingitis in the Early Stage.

Schauta (*Ibid.*) says that we seldom have an opportunity to observe the early stage of tubal disease, since at the examining-table the condition noted

is usually pyo- or hydrosalpinx, or hypertrophy of the tube. The nodules described by Chiari at the isthmus of the tube, which are due to localized hypertrophies of the muscularis, represent the result of a catarrhal process which is most severe at this point, because the lumen is most contracted here, and consequently the swelling of the mucosa gives rise most quickly to dilatation and hypertrophy of the muscular wall. The patient has frequent and irregular hemorrhages, uterine catarrh, severe pain, and is sterile. The pain is seldom characteristic, being referable to former perimetritis, although sometimes it is unilateral, and of a peculiar colicky nature. These pains succeed one another at intervals of from fifteen minutes to two hours, and may last an hour or two; in the intervals the patient may be quite comfortable. The pain is due to the spasmodic contractions of the hypertrophied muscularis at the point of obstruction; it is naturally most severe at the time of the menstrual congestion, and often ceases after the flow has become established. On examination the peculiar nodules at the isthmus of the tube may be felt, even when the patient is not under the influence of an anæsthetic. They are not readily mistaken for any other condition, and form conclusive evidence that the inflammatory process has extended from the uterus to the tubes.

As regards the prognosis, it may be stated that in old subjects a cure may occur spontaneously; in young women, if the tube remains patent, there is apt to be general hypertrophy in consequence of the stenosis, but if it becomes closed pyosalpinx develops. Of eighteen cases of *salpingitis isthmica nodosa* under the writer's care, only five required operations. His technique is somewhat peculiar. The tubes are entirely separated from the broad ligaments, the latter being ligated separately. The fundus uteri is then surrounded by a temporary elastic ligature, while the uterine ends of the tubes, with the nodules, are entirely dissected away from the uterus, the raw surfaces being closed with deep and superficial sutures. In each instance the patient recovered, and was entirely relieved of the colicky pains from which she had suffered.

The Relation between Syphilis and Hysteria.

Charcot (*Progrès méd.*, 1887, No. 51) believes that the tendency to hysteria may remain latent, as it were, until it becomes active through the influence of some general infection or toxæmia, as syphilis or alcohol. Lead-poisoning is a potent cause of hysterical manifestations. Severe headache in a syphilitic subject, associated with hyperæsthesia of the scalp, is usually of hysterical rather than of specific origin, and is not controlled by antisyphilitic treatment. It may be in these cases that a specific cephalalgia really existed and was cured, the hysterical symptoms persisting.

Intra-uterine Applications of Chloride of Zinc.

Rheinstädter (*Centralblatt für Gynäkologie*, Aug. 25, 1888) states that he has used chloride of zinc in this way for upward of ten years, and has never observed any ill effects, especially stenosis of the cervical canal, although he has made nearly twelve thousand applications. This treatment is especially applicable to cases of chronic endometritis; ergot, hot-water injections and glycerine tampons are indicated at the same time. In many instances erosions

can be healed by applications of a strong aqueous solution of chloride of zinc (50 per cent.), so that Emmet's operation may be dispensed with. The caustic is more efficient than the curette in cases of hyperplastic endometritis, since the former destroys the submucous as well as the mucous layer. In the writer's practice, four cases of sterility were treated successfully by cauterizing the diseased endometrium.

Vomiting and Meteorism after Laparotomy.

Chiara (*Ibid.*, September 22, 1888) has observed that these phenomena occur more frequently after the removal of diseased ovaries than when larger abdominal tumors are extirpated. He attributes them to the constriction of the nerves in the stumps. In the case of large, slowly forming tumors, however, the nerves undergo a certain amount of stretching, so that they are less irritable. The symptoms persist until the ligated stump becomes atrophied, when they cease spontaneously.

The Changes in the Endometrium in Carcinoma of the Cervix Uteri.

Fränkel (*Archiv für Gynäkologie*, Bd. xxxiii. Heft 1) says that while he agrees with Abel's deductions, that in all cases of cancer of the cervix the uterine mucosa undergoes serious changes, he differs from him regarding the nature of this change. From an examination of six uteri, in which the cancerous disease had not extended above the cervix, he found that the appearances presented in sections made through the corporeal endometrium were those ordinarily observed in chronic endometritis. The interstitial tissue showed marked changes, especially an increase in the number of spindle-cells. It is impossible to trace a direct connection between this condition of the endometrium and the cancer of the cervix. While the writer does not believe that the former changes are of a malignant nature, he is none the less of the opinion that in carcinoma of the cervix uteri total extirpation is preferable to high amputation.

CORRIGENDUM.

In Dr. Da Costa's article in our last issue, page 448, 11th line from the bottom, *for* "Drop doses of nitro-glycerine" *read* "Drop doses of a one per cent. solution of nitro-glycerine."

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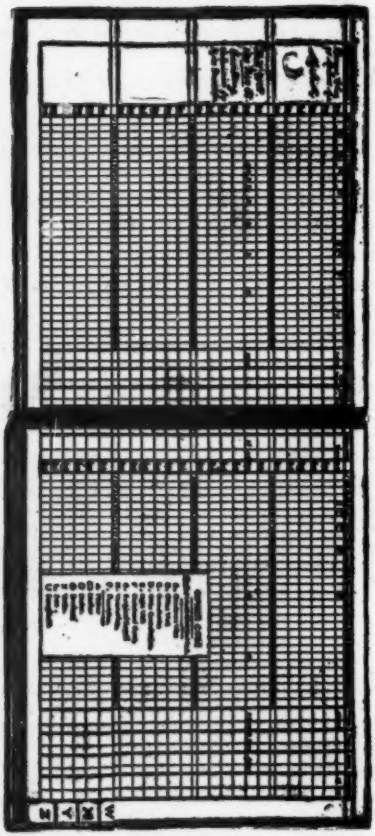

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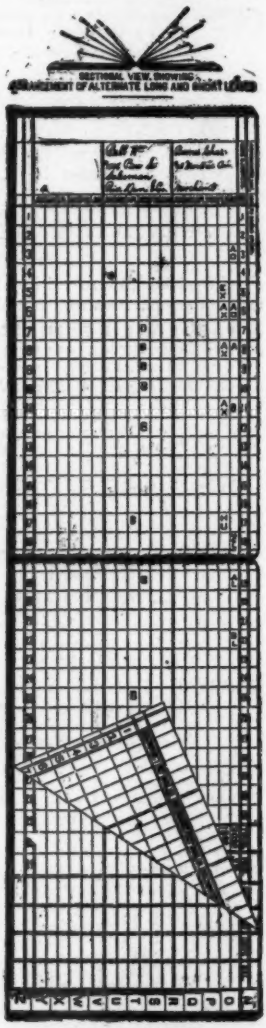

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